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ARTIFICERS OF THE GOLDEN BOWL.[1]

By DOUGLAS MILLER, F.R.C.S., F.R.A.C.S.,
Sydney.

Or ever the silver cord be loosed, or the golden bowl be broken . . .

Ecclesiastes, xii, 6.

I AM greatly honoured to have been asked by your College to deliver this G. E. Rennie Memorial Lecture, and though overcome by a sense of inadequacy, I am deeply pleased that my poor efforts should be in memory of a great Australian physician. It would not be for me to tell this assembly the qualities which go to make a great physician; but I dare to assert the importance of a broad background of knowledge and experience garnered from earliest training in a great school famous for its research and teaching. This was the good fortune of George Rennie. In 1881, the year before the Sydney Medical School opened, Rennie completed his arts course and won a scholarship that took him to London. He graduated at University College Hospital in 1887 and obtained his M.D. degree in the following year. In 1890 he returned to Sydney. It was nine years since he had left, and I believe that only strong family considerations determined him to leave that great world of which he surely felt himself a member, and in which he would certainly have had a bright future.

During his absence great events had happened in Sydney. A new medical school had been founded in 1882, and the early graduates would by this time have been defending their rights and their prestige. How could they avoid the evils of parochialism and the *amour propre* natural in the isolation of this still remote colony?

Possibly Rennie would not be accorded the appreciation and the ready access to work proper to the brilliant graduate of a great London school. I fancy he did encounter such difficulties, as he contemplated an early return to England; but he obtained an appointment as pathologist and later physician at Sydney Hospital, and then later became physician at Royal Prince Alfred Hospital. As physician and eventually senior physician at Royal Prince Alfred Hospital, he led a vast band of students. To the influence of a great teacher there is no boundary of time or place, and directly and indirectly many of us must be in his debt.

As I was but a student when he died in 1923, it was not my good fortune to feel his direct influence; but in those days it was my happy lot to be closely associated with his great surgical contemporary, Alexander MacCormick, and often to hear the praises of Rennie as a learned physician from one not given to empty commendations.

George Rennie's favourite preoccupation was with neurology, and in his honour I am going to tell the story of the lives of two great men who above all others have given to mankind the wonderful gift of surgery of the central nervous system. I have called them the "artificers of the golden bowl".

[1] The G. E. Rennie Memorial Lecture, delivered at a ceremony of The Royal Australasian College of Physicians at the Albert Hall, Canberra, on Friday, October 16, 1959.

When in 1881 George Rennie left Sydney to seek his medical training in the old world, the young men of Sydney who sought medical qualification had to make their choice between studying in London, Edinburgh, or one of the famous Continental universities, though possibly some may have gone to the young medical school then existent in Melbourne. Rennie went to London to University College Hospital, regarded at the time as the Balliol of English medical colleges. It was full of famous men, who attracted by their skill and eminence students from all over the world. Perhaps Rennie had heard of the work of Gowers in neurology and of Burden Sanderson, or of the skill of Godlee, or of the researches of Bastian. He had not yet heard of young Victor Horsley, that year a brilliant and unusual graduate of University College, under whose compelling and magnetic influence he must surely soon have fallen as both student and graduate. It is this Victor Horsley that I have chosen to call the first of the artificers of the golden bowl, and whose story I shall tell.

In the year 1857 John Calcott Horsley, a well-known painter, was at the height of his fame. He had worked at Windsor and was *persona grata* to his sovereign queen. He had identified himself as a strong opponent of the pre-Raphaelite School and a denouncer of the use of the nude model. It was a coincidence that on the day when Princess Beatrice was born to the Queen, Horsley was presented with a son. Victoria of England expressed her high regard for the artist by sending a message that she wished to confer her own name on this son.

It was in this year that she conferred her name also on the decoration for ultimate valour in the field.

At an early age the boy was presented to his Sovereign. It was fitting that he should begin life under such high auspices, for many years later it was to be said of him by Sir Arthur Keith that "the day will assuredly come when the crowded and eventful life of Victor Horsley will form one of the brightest and most moving pages in the whole history of British medicine", and by Paget, "he is with Paré, and Hunter and Lister, with them, not below them". He grew up over-boiling with boyish enthusiasm and uninhibited interests, and early showed signs of a strong and independent personality. Strangely enough, his upbringing was unconventional, and he was never subjected to the moulding influences of an English boarding-school, but grew up in the free and stimulating atmosphere of his home surroundings. Some of his admirers have attributed to this influence the survival into manhood of his boyish and uninhibited personality and its tremendous fruits, whereas others have felt that by early disciplinary training this great human force might have been saved from the alleged indiscretions and the misdemeanours of his later enthusiastic actions. Soon he was storming his way through the Medical School and in 1881 graduated with the Gold Medal. He was already a marked man among his peers, and it is of interest to note that among these was Alfred Lendon, of Adelaide, who wrote: "He was a tall manly youth with a delightful smile, a strong sense of humour, overflowing with joie-de-vivre and dogmatic in his views, 'Oh rot' was his favourite expletive to those from whom he differed, and argument would go no further."

On graduation, Victor Horsley became resident medical officer at University College, and so entered into that most exciting and satisfying phase of a young doctor's life when his Alma Mater discharges him from her classes and makes of him a responsible partner in her work. This keen young man enjoyed every minute of this responsibility, and early sensed the great challenge of disease to science in these exciting days of the dawn of modern surgery. In a letter to his sister he tells of how he saved the life of a suffocating child. He had rushed down to the casualty and slit open the trachea, he had sucked out blood and mucus; and he went on to write triumphantly: "Maudsley and I were cock-a-whoop about it as the other fellows gave it up, in fact went away and said it was wasting our time. As we did not know whether it had diphtheria or not we had washed out our mouths with quinine whereupon the unfortunate Maudsley reproduced his dinner, was promptly offered another by the President of the doctor's mess, which he refused." Then he asks his sister to send flowers to decorate the ward, "to make glad the hearts of men and women". Here we feel the mixing of elements so strong in this man—a surgical courage almost without inhibition, and a kindliness and thoughtfulness for his patients. We have a description of this young resident's room at the hospital: a table covered with books and papers, an arm-chair made impossible by microscopic slides set out to dry, and he, in the middle of it all, gravely practising his rifle drill. He was like that throughout life. One of his fellows at this time spoke of him as brilliant in intellect and blameless in his life.

The following year, after graduation, he was made Assistant Professor of Pathology at University College, and there is no doubt that Rennie would have met him in this post. The following year, when he was but 26 years old, he became a Fellow of the Royal College of Surgeons and Assistant Surgeon to University College Hospital. That same year he was made Superintendent of the Brown Institute. This institute was primarily endowed for the care of sick animals, and in it Horsley found a unique field for experimental surgery, not only in the interests of animals, but in the interests of humanity, and here he did some of his most important work.

At the age of 28, this young man had indeed a very full life. In the short five years since graduation he had been Assistant Professor of Pathology, had been appointed to the staff of University College, had become superintendent of the Brown Institute and had accepted a surgical appointment at the National Hospital for Nervous Diseases at Queen Square. His mind boiling with ideas, he was launched on one of the most momentous careers in the history of medicine. In these early years he was investigating at the same time the physiology and surgery of the thyroid, the control of rabies and the localization of function in the brain, all tremendously absorbing problems.

Like his father, he had a fine figure and physique, a long head, heavy brows, over-hanging, challenging, keen, hawk-like eyes, a finely-sculptured long nose, a well-formed jaw—a face at once arresting attention, with the play of life around his eyes and his lips, and "a smile which hid a deadly earnestness of purpose".

It was natural that the developing knowledge of the thyroid at this time should have arrested him. Thoughts on the function of this enigmatical body were being woven among the minds of many investigators throughout Europe. Gull had described the condition of myxœdema, Kocher had described the "cachexia strumipriva", which was apt to follow the removal of the thyroid. Horsley, working on monkeys, demonstrated that the total removal of the thyroid would produce myxœdema. He hinted at and envisaged the cure—the physiological replacement of the gland by thyroid extract. At this time also he became engrossed in the problem of rabies, which had broken out in a severe form in England and had attacked even the deer in Richmond Park.

He was appointed to a special Commission of Investigation, and in a series of careful experiments he confirmed the work of Pasteur, and made recommendations which led to the control of the outbreak. This activity particularly brought him into conflict with the anti-vivisectionists, whom he was to fight in a lifelong and unrelenting war.

It was in 1884 that he became interested in the greatest field of research, the localization of function in the human brain, and on this he started work with Sharpey-Schaeffer. A brilliant dawn was illuminating many unknown wonders in the treasure house of medicine. He took into his hands the golden bowl. The brain had been accepted for a very long time as the seat of motor, intellectual, physical and other functions. Galen, in the second century A.D., had said that where "the origin of nerves is, there is the command of the soul". However, men had to wait until the nineteenth century for experiment and scientific observation to verify this teaching. Broca, in 1869, started the stream of discovery by describing the brain of a man who had been unable to speak; at the post-mortem

examination, a softening in the left fronto-temporal region was found. In 1870, Fritz and Histig caused some movement by stimulation of the animal brain with galvanic current, and in 1873, Ferrier greatly advanced his work by the effects of faradic stimulation. Observations were now accumulating from many centres. Horsley, in his Croonian Lecture in 1891, which was a work of some 260 folio pages, reported on the mammalian nervous system and its functions, and their localization by electrical methods. In this he described electrical reactions followed from cortex to cord, and in reverse, showed how stimulation of the sciatic nerve could be traced to the cord. This was very important work, and led to some understanding of the effects of injuries and diseases of the brain such as Jacksonian epilepsy, which in turn inevitably stimulated the development of brain surgery for the relief of such conditions.

Horsley's work was very intense, and so diversified that he published original work on cerebellar stereotaxy. These were exciting times for him, in the clinical field as well, for in 1884 Rickman Godlee, a surgeon at University College Hospital and a nephew of Lord Lister, had operated for the first time in history to remove a tumour from the brain. This had been localized by Dr. Hughes Bennett on the basis of the experimental work of Ferrier. The localization proved correct, and Godlee removed a tumour. It was a very notable event. Unhappily, some days later the courageous patient died as the result of sepsis. At this time Horsley was working on cerebral localization and was very soon to feel his way into this field of surgery in humans. He became its pioneer. In 1886 he was able to report three successful operations on the cortex of the brain for the excision of a scar, a tuberculoma and a foreign-body cyst. He designed the semilunar flap we now use, and recognized the importance of excising surrounding healthy brain, a teaching stressed many years later by others. This year he was made a Fellow of the Royal Society. His meteoric career was without equal. In 1887, working with Gowers, he operated for the first time in history, and successfully, on a tumour of the spinal cord. Young Charles Ballance assisted and encouraged him in this operation. The paralysed patient walked again. In 1890, Horsley spoke to an enthusiastic conference in Berlin, and it was clear that he had entered into, and planted the standard of surgical relief on, a new and great province of human disability. Always moved and challenged by human suffering as much as by scientific curiosity, he was early at grips with *tic douloureux*, that most terrible torment known to man. His first surgical approach was in keeping with modern practice, an intracranial division of the root of the nerve, though later he conformed to contemporary thought and used to remove the whole of the ganglion. We read accounts of his doing this most exacting and difficult operation behind a screen in the ward at Queen Square where there was no operating theatre, and even in patients' homes. This is certainly a testimony to that skill and dexterity of which all men spoke. Ultimately he reported 48 operations for excision of the ganglion in *tic douloureux*.

In 1886 Horsley was immersed in problems of the pituitary gland, that mysterious little body enshrined in the centre of the head, about which there were many theories and no knowledge. He disproved the general belief that it was essential to life by totally removing it from animals, many of whom lived for quite a time. This animal work led him to that incredibly adventurous attack on a tumour of the pituitary in humans, and by 1906 he could tell of nine such operations performed, by what we now consider a difficult route, and with an extremely low mortality. These cases he never reported, though they were epoch-making, but he was more interested in doing than in recording. At about this time Harvey Cushing, the greatest medical writer and recorder of the age, had written: "It is not impossible that a diseased pituitary may someday be successfully attacked." While he was making this prophesy, Horsley had already fulfilled it.

While he was in the thick of all this work and conducting a large practice, he was often called upon to do battle on other fronts. In 1892 anti-vivisection agitation, which was always simmering in England, was brought to boiling point by the publication of a book by a Miss Frances Cobbe, entitled "The Nine Circles". This was intended to disclose grim secrets of vivisection theatres, and the subject found its way into the agenda of an Anglican ecclesiastical congress. Various statements by churchmen set in motion a vitriolic correspondence in *The Times* between Horsley and anybody who chose to bandy words with him. At first he attacked Miss Cobbe, accusing her of deliberate omissions regarding anæsthesia given to animals. He wrote:

> I am not aware that deliberate deceit can be more succinctly or correctly described than by the word Fraud.

Then he turned on Bishop Barry:

> In conclusion may I be allowed to express my sincere regret that he should deem it consistent with his honour to evade the personal, and let me add episcopal responsiblity of his action in having used and advertised to the defamation of the profession, a source which has been shown to be untrustworthy and into the truth of which he never troubled himself to enquire.

And again of Canon Wilberforce:

> Is there no means Sir, I would ask, whereby a Canon who violates truth and charity in this unblushing manner may be brought to some bar of ecclesiastical discipline?

In the middle of this vitriolic correspondence a Dr. Burdoe, a member of the Royal College of Physicians, brought into the argument dignity proper to a physician, and wrote to *The Times* as follows:

> If Mr. Horsley can conduct himself decently I shall be delighted to discuss the vivisection question with him. I have never used violent or coarse language myself in doing so, and I ask from him nothing but the common courtesies which obtain in debate amongst even day labourers.

And then a house surgeon rushed to Horsley's rescue with an account of his kindness:

> Horsley's visits were looked forward to by all his patients and gratitude was forthcoming on all sides for the very feeling of kindness and regard for pain, which the Bishop of Manchester thinks impossible in those who experiment on animals.

On another occasion, Horsley wrote privately about the infamous Miss Cobbe as follows:

> I hope you will not permit Miss Cobbe's name to be referred to as that of a lady. A woman who has been proved by her own writings and by the Law Courts to have systematically falsified the published statements of scientific men for sixteen years, and to have termed them murderers, has no claim, it seems to me, to the title of lady. Much harm has been done to scientific work by non-recognition of her dishonesty.

During this fight, one of his opponents died, and he wrote: "What a divine blessing that this man has been taken away." Horsley was still a young man, but the vehemence of his expression was indeed strong and mature.

By 1893 he had become a full surgeon at University College Hospital, where he operated frequently and worked regularly in his experimental laboratory. People came from every country to see him and to work with him, and all he asked of them was interest and enthusiasm, caring not whether they published anything and never demanding the inclusion of his name in their work. On the other hand, he was not a good undergraduate teacher; his admirers said he was too hesitant to assume the necessary ignorance on the part of the student, and was free from all assumption of superiority, and so his teaching rounds were rather like consultations, and nobody enjoyed them much.

He apparently had a captivating personality to those who knew him, and it was said that, great as was his work, his personality was greater—unlike so many scientific men, who exhibit a disappointing contrast between the size of their work and that of their personality. It was written of him:

> He could make himself felt in any company though he never made any attempt to impose himself and was free from the slightest affectation of superiority or the reserve which his great position and prestige might perhaps have justified. To patients his easy simple kindly manner, his tender humanity, his inexhaustible consideration must often have provided a surprise. The total impression was always one of generous power.

The opinions of those who play around the feet of giants are often derogatory to the giant, and now, somewhat in contrast to this historical assessment of Horsley, I have the reminiscences of an old man who, as a student and houseman at University College, knew Horsley and gives us a contemporary "worm's-eye view". He writes that he remembers him as

> . . . tall, thin, rather untidy and strung-up. He only came into the hospital about once a week. He would dash up to the wards or theatres, he was stand-offish and very few students troubled to follow him. To the ordinary student and house-man he took the attitude he was too important to have much to do with them. His House Surgeon job was not popular. He seldom discussed his cases with the students or the house-man. He never lectured and discouraged students from attending his operations. He was generally regarded by the students as a dead loss. He wasn't interested in routine work or hospital or medical school affairs, which was a good thing, for most members of the staff tried to keep out of his way, lest they be involved in an argument. He was intolerant, you could not discuss anything with him or contradict him, and he took every opportunity to lecture you on the evils of alcohol. He appeared to be a great man mainly because of his air of detachment, and few of us would have been able to say why he was a great man. He seemed a vague remote figure, probably better known abroad than at home. Not often did English people watch him work, the visitors were usually German or European, they thought much more of him than we did. His operating was slovenly and untidy, and there was much wonder that he seemed to get good results. He left horrible scars, huge bone defects in the head, and it was altogether nasty, untidy work. In the theatre he was difficult and often rude to visitors. You only went to his theatre if you wanted to see a lot of blood. Apart from neurological surgery, his favourite operation was for piles. Outside the hospital he was a different person and could be most charming. He talked well on almost any subject, he must have been the most versatile man I have ever known. I suppose he was really a great man, but he wasn't really a surgeon, he was some sort of physiologist I suppose, a kind of Olympian figure, though we would have been hard put to tell why he had been placed on the mount.

It would be necessary to be on a higher level than that of a student to appreciate this gigantic personality. His life was dominated by burning passions, and it is hard to say which burnt most fiercely. No matter how busy he was, for thirty years he never relaxed on experimental work of all kinds. I have read a characteristic story of how one day he had an opportunity of doing an autopsy at the zoo on a recently dead walrus, and off he rushed to do it, cancelling his professional work for the morning. "If they want me to learn, they must wait" was his explanation to a surprised visitor. Perhaps the one passion which overruled that for investigation was hatred of alcohol. He ranted and preached and wrote (even a book) about the evils of alcohol, and the one thing that would drag him from his laboratory, or anything else, was a good temperance meeting.

In 1906, in his late forties, he was at the height of his fame and power. Now "Sir Victor" Horsley, he had behind him a record without parallel of original physiological investigation of surgical achievement and of international fame. At this summit he began to change the course of his life. He gave up his job at University College Hospital, continuing to work at Queen Square, from where in 1913 he was able to publish a report of 265 brain tumours on which he had operated. The urge to take part in public affairs had grown on him, and he was beginning to devote his life to liberal measures. He had resolved that by the age of 60 he would be devoting himself entirely to public affairs. He felt a strong urge to advocate and work for not only temperance, but many liberal reforms, particularly women's suffrage, Home Rule and national insurance for workmen. As early as 1910 he contested a seat in Parliament; during the campaign he covered his house with vulgar posters, and he rented a hoarding further down the street, off Cavendish Square, which he also covered with posters. This behaviour brought him into a good deal of disrepute with the profession, who accused him of advertising, but he was impelled by an overmastering sense of duty in the espousal of any pet project, intemperate in language and intolerant of opposition; "his tongue no man could tame". During one of his outbursts about suffragettes who had been detained and forcibly fed in Holloway Gaol, he poured forth his most vitriolic vocabulary on the head of McKenna, the Home Secretary, referring to him sarcastically as Viscount Holloway. At about the time of the outbreak of war in 1914, when he was 57 and his plans for a political career were well under way, he was again negotiating for a constituency. That meteoric career had waned, but his personality had grown even more dominating. He thought politics and social causes just as deserving of his energy and genius as medicine and science, and would not have been amused by Osler's academic query: "What demon drove a man of this type into the muddy pool of politics?" He was such a hard hitter and had such a fanatical conviction of the justice of his cause and of the injustice of any who deviated from it that we are left to wonder whether he would have been a success in this chosen career of his later life.

Already his unrelenting espousal of political causes, particularly national insurance, and his fierce public outbursts had alienated many doctors from him, and he was violently attacked by those he was trying to help. This and his early resignation from the staff of University College probably contributed to a rapid decline in his private practice. It might almost be thought that he was a back number. The war broke out, and soon it had caught his enthusiasm. After a time, during which the War Office, probably wishing to avoid unnecessary disturbance, declined the offers of his services, he was enlisted as a general surgical major and sent to France, but later was transferred as surgical consultant to the Mediterranean theatre, where possibly it was thought he would cause less trouble. As surgical consultant he travelled widely in the various theatres of war, and it is of interest to Australians to know that he visited Gallipoli and was taken round by Major Archie Aspinall, of Sydney, who told of his great courtesy to and deep consideration for the injured. He was never in charge of a unit for head injuries such as we had in a later war, but continued as a consultant in general surgical duties.

In 1916, at his own request, he was sent to Mesopotamia. Believing that he might help there, he wrote to his wife: "The topnots there seem to need a iittle wisdom." He found things in Mesopotamia in a mess, and characteristically attributed it all to alcohol. He wrote of the "drunken misdirection" of our military affairs and the "apathy and misdirection of the whisky drinkers". Attributing most of the evils to alcohol, he took too much courage from his own temperance, believing it to confer immunity to heat-strokes and tropical illness. And so with confidence, in the blazing heat, he used to walk many miles a day between hospitals. While in Amara on the Tigris in 1916 he became ill of heat-stroke, his temperature rose to 110° F., and within twenty-four hours he was dead. Even in these grim days when death stalked naked, the scientific and surgical world was shocked. A rush of adulation from those who had preserved a sense of values lent impetus to a reputation which has grown with the years. Today we recognize his work embodied in the structure and function of the science of neurology and its surgery. In the words of Paget, "He is with Paré, Lister, Hunter; with them, not below them". "He had spent himself with superb extravagance and played his life for all it was worth." We of the present must view him in his true orientation. In his will, Horsley expressed the wish that his skull and brain should become the

property of the Neurological Society of London, and that the rest of his body should be sent to University College for the purpose of special dissection. Fate appropriately foiled this purpose, and instead of his dismembered parts being distributed and preserved in spirits in the museums of London, this warrior in the vanguard of surgical progress, this turbulent spirit in the sociological field, earned a soldier's grave, and a sad little procession of soldier colleagues laid him to rest among fellow soldiers in the hot sands of far-away Mesopotamia.

It might have happened so easily that Horsley's great work and pioneering discoveries could pass into history as a story of individual genius and of achievements impossible for ordinary mortals to reproduce. His voyages of discovery were left largely uncharted and his wake could not be followed.

By the time of his death, however, Harvey Cushing in America had established himself as the pioneer of neurosurgery in that country. His genius and his contribution were of a different kind, and in historical orientation he will probably be regarded as the cartographer of this new world into which Horsley had sailed, and as the one who brought its treasures from the prerogative of genius and placed them in the safe keeping of lesser men.

A graduate of Yale, Cushing had received his first stimulus from Jack Elliott, of the Massachusetts General Hospital, when he was his intern. In 1895, Jack Elliott, acting under the stimulus of Horsley, essayed the first operations on the brain in the United States of America. These had proved rapidly fatal. Cushing had been very interested in these cases, and characteristically had made copious notes on them. Elliott suggested to him that they should be reported; but Cushing refused to cooperate, feeling that this dismal story would be poor publicity for a branch of surgery to which he had already felt the call.

From earliest years, Cushing had chosen paths leading to success. An early comment made by Professor Newell, at one time a fellow resident, hints at his consecration to success:

> He was recognized as the ablest man of his class, and an extremely hard worker. As a house officer, I was his junior and suffered severely in that position for a year. He was an extremely hard man to work with, whether one was over him or under him, as his tremendous ambition for success made it impossible for him to allow anyone else to get credit for work done. As you know when he wanted to be, he was one of the most charming people in the world, but working with him I found he couldn't tolerate anyone else in the limelight.

In the early years after graduation, Cushing obtained appointment on the staff of Professor Halsted, of the Johns Hopkins Hospital. Halsted was a remarkable character, described as a "fastidious recluse"; he was an aristocrat in every sense and exercised a great influence in the world of surgery, not least through the instrumentality of Cushing. In surgery he started a veritable revolution from the traditions of speed and operative flamboyance. He preached and practised a perfection of techniques, which concentrated all importance in gentle, bloodless, tissue-preserving manipulations. He disregarded time and scorned haste, but preserved the patient's well-being. A professor of surgery who avoided students and disliked seeing patients, he sought only to work in his laboratory and his theatre. It is an interesting sidelight on his search for perfection in all things that he is said to have sent his laundry from Baltimore to Paris. In this atmosphere of careful technique and deliberate plan, Cushing developed.

His interests were already particularly centred on neurological work, and by 1900 he had written a monumental paper on trigeminal neuralgia, in spite of having a minimum of practical experience. This was such an elaborate exhaustive and well-illustrated paper that it set a new standard for medical publication. At this time he felt himself so strongly attracted to surgery of the nervous system that he set out for Europe, in order to work with Horsley, Sherrington and Kocher. His plan was now fixed and his course set. And so, in 1900, this neat, good-looking, earnest young man of 30, with keen, deep-set eyes, aquiline nose and hair parted in the middle, called on the great Horsley. It is sad, though perhaps not surprising with his background and personality, that he failed to appreciate the stature of Horsley. He later gave an account of his first and, I think, only visit to him. He said he found Horsley, seemingly living in great confusion, dictating letters during breakfast to a male secretary, patting dogs between letters and operating like a wild man. He gave Horsley a reprint of his paper on the ganglion, whereupon Horsley said he would show him how to do a case. The next morning they drove off in Horsley's cab, after having sterilized the instruments in his house and wrapping them in a towel. They went to a well-appointed West End mansion. Horsley dashed upstairs, had his patient under ether in five minutes and was operating fifteen minutes after he entered the house. He made a great hole in the woman's skull, pushed up the temporal lobe of the brain—blood everywhere, gauze packed into the middle fossa, the ganglion cut, the wound closed—and he was out of the house less than an hour after he had entered it. We can imagine how this must have offended a disciple of method and neatness and fastidious technique, and how Cushing could miss the point of Horsley's greatness.

This experience settled Harvey Cushing's decision to leave London, for he felt that the refinements of neurological surgery could not be learnt from Horsley.

Cushing then spent most of his time with Kocher in Berne, the greatest technician of his day, and on his return to Baltimore he set about his purpose and was not to be deviated from it. His entry into cerebral surgery was not deterred by early depressing results. In 1902 he did his first seven cases, in 1906 he did ten. By that time, and with hardly any successful practical work to his credit, he had established himself by speech and pen as an authority on central nervous system surgery. For instance, in 1906 he was invited to write a short chapter on the surgery of the head in Keen's "System", and he embarrassed the editor by submitting 800 pages with 154 illustrations. This was condensed to 259 pages. This really magnificent contribution to literature had the effect in the United States of demarcating the surgery of the central nervous system into a specialty with Cushing as its leader. The publicity was in advance of the work. Possibly with the hope of improving Horsley's outlook, Cushing sent him this chapter, and Horsley replied:

> I have now had the opportunity to go through your very elaborate work on head surgery, and congratulate you on succeeding in presenting this excellent and yet thorough account of such a complex subject. I hope and feel sure that you will do a large amount of good, for it is extraordinary what lack of knowledge of common methods still exists.

Cushing's early high mortality, which could have been lessened by attention to some of Horsley's teachings, did not deter but stimulated him to evolve his own techniques which would overcome the hazards of shock, blood loss and infection, and high intracranial pressure. He stayed in Baltimore developing surgery of the head until 1910, when, having established himself as a great authority and outstanding writer and lecturer, he was offered several chairs, but accepted the Senior Chair of Surgery at Harvard. Sir William Osler, always his patron and admirer, strongly urged him to take this chair. At the time, the Peter Brent Brigham Hospital was being built from money which had accrued from a bequest left some years before by Brigham, a wealthy merchant, who had started life as a fish pedlar. This was the first university hospital in Boston, and was opened in 1913. Shortly after Cushing's appointment, and before he could start working, war broke out, and he went for a time with the Cleveland Unit to the American Hospital in Paris. After three months he returned, with a great experience of head wounds, and having spent time with the distinguished British neurologists Gordon Holmes and Percy Sargent. Then again, in 1917, he left for France with

the United States Army, and was detached for six months to do work with the British Expeditionary Forces. He kept most detailed histories of thousands of cases of head wounds, and reported 119 wounds in the brain and its coverings in *The British Journal of Surgery* in 1918. Some of these cases were traced by Sir Hugh Cairns in 1942, for they constituted the only properly recorded cases of their kind. During the war Cushing had the very sad experience of being present on the pathetic occasion when Revere, the cherished only son of the Oslers, died of wounds. After the Armistice he returned to Boston.

It had been notorious during his time in France how very slowly he worked, the even tenor of his way undisturbed by the exigencies of war, and many casualties were said to have succumbed in the theatre ante-room waiting for his attention. At the end of the war, characteristically enough, he wrote a book called "The Surgeon's Journal".

On his return, Cushing was installed as professor of surgery in the new hospital, and was now able to make order in his life and work without interruption towards his chosen end. This he did until his retirement in 1931. These were momentous years, characterized not by meteoric brilliance or new discovery, but by dogged hard work and unrelenting system, which was in itself a genius. He was determined to make brain surgery safe, to put it out of the monopoly of stars and into the hands of lesser men; so it was that, step by step, he overcame the great hazards of shock, hæmorrhage and infection, and the greatest hazard of wrong diagnosis and localization. His operative techniques were very slow and tedious, and the procedures would last for many hours. This would have been fatal in rough hands; but he was the child of Halsted, and the techniques we call Cushing's were in essence Halsted's. He attended to every detail, even shaving the head himself, and later removing the stitches and doing the dressings. He met technical difficulty, not with the flash of genius, but with quiet painstaking determination. The success of his methods and the attractiveness of his writings, soon brought men from all over the world to work with him. Theirs were hard days and nights. Cairns, describing his term with Cushing, said "Gallipoli and the Battle of the Marne were nothing compared with the physical stress of a year as Cushing's neurological resident". He was most exacting to his assistants, rarely delegating any operative work to them, and was critical and merciless. It was remarked of him that he could not trust anyone, not even Nature. Everything was scrutinized and rarely praised. He was possessive, and slow to give credit to anyone else. Like Theodore Roosevelt, he had to be "the bride at the wedding, the corpse at the funeral". It was the privilege of few men to rebut his censures or offer criticism to him; but it is told how on one occasion his old chauffeur seized a rare opportunity. Cushing had come out to his car full of criticism about the untidiness of the drive, the dirt of the car and the disorder of things in the car. The chauffeur stood up to all these querulous complaints, and the joined in quietly: "Yes, and you've got egg on your chin."

Cushing led a dedicated, single-minded life, each minute carefully planned and gainfully used. He was a prodigious writer, recording in the fullest manner every detail of his work and accumulating facts which led to much wisdom. His own life was extremely well documentated from the earliest days. Every thought, word and deed were recorded, with little sketches he made and numerous photographs. There is little difficulty in seeing photographs of Cushing in almost any of his activities in any stage of life.

Though he was in many ways a grim task-master, men speak of the personal charm which would break through the clouds of his earnest purpose. He appeared to model himself on Osler; he would put his arm around your shoulder while walking and talking, and he had Osler's love of books. Sometimes he could be very informal, sit on a patient's bed and talk and smoke.

Horsley lived with his family and dogs around him and worked in the family sitting-room, never having a study; he was always surrounded by friends and enjoyed their company. Cushing lived in his study. He would have his family kept at bay and his meals served in his study.

> If you were invited to dinner you might find yourself either gently directed to the street afterwards or else deserted by the host when he retired to his study punctually at 8 o'clock.

So it was that he did his great work, and in full records beautifully illustrated, he differentiated groups and varieties of cases, carefully followed their progress and was eventually able to teach as to diagnosis and prognosis. It is a fact that he strove too much after the dramatic in his presentation of work, believing this necessary to hold the interest of the reader, and sometimes sacrificing true proportions and proper emphasis in the process.

The early sixties found him worn, thin and grey. His arteries were narrowing and he suffered great pain from his legs. At this time he finished and recorded a series of 2000 brain tumours on which he had operated.

After the age of 60 he described a particular tumour of the pituitary gland, which he credited with bringing about ugly obesity, hairiness and high blood pressure. His description of this was to some extent founded on the observations of others, and on one case of his own which he had followed through life but nearly missed in death, for the patient had been buried two days before Cushing's disappointment was conveyed to the relatives, who authorized exhumation so that he could verify his diagnosis of pituitary tumour. And so he achieved that high fame in medicine—an ugly disease bearing the investigator's name—and "Cushing's syndrome" came to be the eponym for this particular combination of symptoms. Time has modified our views of this disorder, but Cushing's name will remain associated with it.

After retirement from Harvard, he accepted a chair in neurology at his old school of Yale. This was an honour he enjoyed, but his great work was done. The next few years found him facing a growing burden of infirmities, and accepting proudly an increasing number of honours conferred from learned universities and societies all over the world. He mellowed greatly, and enjoyed his books, and even his family and friends, among the most intimate of whom was F. D. Roosevelt, whose son James married his daughter. Alert and interested, even in his last illness, he laid down the pen and scalpel at the age of seventy.

Today, in the operating theatres of the world in the east and in the west, the elaborate ritual and fine techniques associated with his name are religiously followed, and his rich, garnered knowledge of the behaviour of the central nervous system tumours largely directs our thoughts and actions in their treatment.

Conclusion.

As a matter of quiet routine, hardly worthy of comment, today the followers of these artificers of the golden bowl may make the blind to see again, the paralysed to walk, many whose minds are clouded in insanity to be returned to reason and those racked by intractable tortures of incurable disease to be freed from their pain.

I have endeavoured to give an account of two great surgeon investigators who took the golden bowl from the obscurity of the ages and, by painstaking observations, courageous attack and meticulous recording, shed a bright light on and gave a high burnish to this precious vessel. The story is a reminder to us, the fellows and members of the Royal Australasian Colleges of Physicians and Surgeons, that research after the most abstruse knowledge and into the most difficult techniques is not the prerogative of those dedicated to work in the laboratories or attainable only with princely endowment, but can be the work of men weighted with the responsibility of human life, and suffering the restraints as well as the impulses of pity which come from the plight of those on whom it is their lot to work.

CARCINOMA OF THE PANCREAS.

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THE pancreas is one of the recognized sites for carcinoma within the abdomen, but nevertheless carcinoma of the pancreas is not a common lesion. In five years at the Royal Melbourne Hospital (1950-1954) only 89 cases were recorded. In approximately the same period there were 279 cases of carcinoma of the stomach. In the statistics published by the Anti-Cancer Council of Victoria for 1958, 74 cases of carcinoma of the pancreas were registered, as compared with 329 cases of carcinoma of the large bowel and 184 cases of carcinoma of the stomach.

Distribution of Tumours.

The distribution of the tumours in the Royal Melbourne Hospital series was as follows:

Ampulla	10 cases
Head of pancreas	61 cases
Body of pancreas	12 cases
Tail of pancreas	6 cases
Total	89 cases

Surgical Pathology.

Carcinomas of the ampulla, the head of the pancreas and the duodenum are sometimes grouped together as "pancreatico-duodenal" tumours, because it may be impossible to classify them accurately even after histological examination.

Bowden (1958) has demonstrated that a small tumour may be responsible for considerable enlargement of the pancreas, so that the size of a mass in the pancreas is not of value in assessing operability.

A tumour arising in the head of the pancreas may be advanced before symptoms appear, but if it originates in the ampulla symptoms appear earlier and operation is performed earlier. This explains the somewhat better reputation of these tumours, which are otherwise actively malignant. Involvement of the common bile duct is responsible for jaundice, classically painless, but nevertheless often accompanied by pain. Obstruction of the pancreatic duct may lead to pancreatitis, acute or chronic, and this complicates the pathological appearances. If the splenic vein is surrounded by tumour, the spleen may become enlarged.

Local spread in the biliary and pancreatic ducts is sometimes a feature, and to effect a more certain removal of pancreatic tumours some surgeons have recommended complete removal of the pancreas and radical excision of the common bile duct (Ross, 1957). Spread to regional lymph nodes is the rule, and glands in the porta hepatis and around the origin of the superior mesenteric vessels are involved at an early stage. These glands can be removed with the tumour, and the surgeon should include them when planning and executing the operation. Peritoneal spread is common, and in many cases carcinoma of the pancreas is inoperable by virtue of this peritoneal involvement. The liver is invaded in a number of instances, and more distant metastases are not uncommon. One of the Royal Melbourne Hospital cases presented with paraplegia caused by secondary pancreatic carcinoma.

Unusual Types of Carcinoma.

In the Royal Melbourne Hospital series, a male patient aged 19 years, had an encapsulated mass in the head of the pancreas. On histological examination it proved to be a necrotic carcinoma, and it was thought possibly to have been an adenocarcinoma arising in the islet cells. Nanson (1954) reported a similar type of tumour in a girl, aged 17 years.

Cystadenocarcinoma occurred twice in this series. In both instances the tumour was situated in the body of the pancreas, extending into the head. These tumours were multilocular and contained gelatinous fluid. Microscopic examination of sections showed cystadenocarcinoma. One of the patients survived for two months after the removal of the tumour and the other 18 months.

Clinical Features of Carcinoma of the Ampulla.

In the Royal Melbourne Hospital series there were 5 male and 5 female patients. The youngest patient in the series was aged 49 years, and the oldest 74 years. The remaining patients were distributed between these two extremes.

In this series, in the typical case the illness commenced with a gradual awareness of anorexia and nausea, and the patient began to lose weight. The urine became dark, the stools pale, and finally the skin and eyes yellow. Examination of the patient revealed jaundice and evidence of weight loss. The liver was slightly enlarged, and a smooth globular extension below the right lobe indicated distension of the gall-bladder. Observation in hospital showed insignificant variation in the intensity of the jaundice. Liver function tests proved the jaundice to be obstructive in origin. The appearances in a plain X-ray film were normal, whilst a barium meal X-ray examination showed a filling defect in the medial wall of the second part of the duodenum. Occult blood was present in the fæces. At laparotomy the gall-bladder was found to be distended and the common bile duct considerably enlarged. No stones were palpable, but in the region of the ampulla there was a firm nodule. It was not always possible to identify the nature of the lesion with certainty without opening the duodenum. A biopsy confirmed the diagnosis.

There were atypical cases in this series. In three, the symptoms were those generally associated with gall-stones. The patient complained of biliary colic or of pain under the right costal margin, which was subsequently followed by jaundice. Rodney Smith (1956) analysed his cases and found pain to be a common symptom in malignant obstruction at the lower end of the bile duct. "The 'painless jaundice' still emphasized in many text books is thus a misleading term, at any rate if it is held to imply that painful jaundice cannot be caused by a carcinoma."

One patient in the series denied any symptom other than gradually increasing jaundice. The gall-bladder was not invariably palpable. It was sometimes distended, but concealed under the liver and impalpable, even under anæsthesia. The gall-bladder might be fibrosed by previous disease, or the growth obstructing the common bile duct might also involve the lower end of the cystic duct.

Diagnosis in the typical case did not present difficulty when jaundice followed a brief period of anorexia and nausea. If biliary colic preceded the jaundice, a distinction from cholelithiasis was impossible without laparotomy, although a palpable gall-bladder would arouse suspicion. Fleming (1956) investigated carcinoma of the extrahepatic biliary system at the Royal Melbourne Hospital, and found that the association between gall-stones and tumour was definite in the gall-bladder, but became much less so in the distal part of the common bile duct. Hepatitis sometimes produced a clinical appearance suggestive of carcinoma. The biochemical tests indicated the non-obstructive nature of the jaundice in most cases; but in some the results of the tests were equivocal, and a laparotomy was necessary to decide whether or not the jaundice was obstructive.

Clinical Features of Carcinoma of the Head of the Pancreas.

In the Royal Melbourne Hospital series there were 61 cases of carcinoma of the head of the pancreas; 37 patients were males and 24 females. The youngest patient was aged 19 years and the oldest 83 years. The maximum incidence was in the seventh decade.

The most common sequence of events was a gradual awareness of pain in the upper part of the abdomen followed by the appearance of jaundice, which slowly deepened. At about the same time the patient became nauseated, lost his appetite and began to lose weight.

Examination of the abdomen revealed an enlarged liver and a distended gall-bladder. It was most unusual to feel a mass corresponding with the tumour in the pancreas. Biochemical tests showed the jaundice to be obstructive in nature. A plain X-ray film of the abdomen was of normal appearance. A barium-meal X-ray examination showed a widening of the duodenal curve, and sometimes a filling defect or irregularity of the inner wall of the duodenum.

In 17 of the 61 cases there was no pain, and the patient presented with jaundice. In seven others pain was too mild to cause special comment. This painless or relatively painless mode of onset has been regarded as typical; but the experience in this series and in that reported by Rodney Smith (1956) indicates that this is not so. In 13 of the 61 cases there was no jaundice at any time prior to investigation; these patients presented with pain and general loss of health.

In a considerable number of cases an advanced lesion, sometimes with ascites, was found at the first consultation. In such circumstances a diagnosis of carcinomatosis was possible, but the origin of the primary tumour remained in doubt. Occasionally a patient presented with acute pancreatitis, or the tumour was discovered accidentally.

Diagnosis in the typical case did not present difficulty. A period of abdominal discomfort, anorexia and nausea, followed by progressively deepening jaundice and the appearance of a palpable gall-bladder, indicated a carcinoma of the head of the pancreas. If there was no jaundice, diagnosis was very difficult, and was reached finally by laparotomy and pancreatic biopsy.

The lesion causing most diagnostic difficulty was pancreatitis. Carcinoma of the pancreas may be responsible for acute pancreatitis, and diagnostic laparotomy subsequently reveals the cause; but the more common problem was in distinguishing carcinoma from chronic pancreatitis. Biopsy material had to be interpreted with care because of the coexistence of carcinoma and chronic pancreatitis. If the lesion was situated within the head of the pancreas, without fat necrosis or other inflammatory reaction, and was responsible for obstruction of the common bile duct and the pancreatic duct, a diagnosis of carcinoma was considered likely to be correct even if the biopsy showed chronic pancreatitis. If there was ulceration into the duodenum, or if the regional glands were enlarged, there was little doubt about the diagnosis of carcinoma. The difficulty in diagnosing carcinoma of the pancreas from pancreatitis is comparable with that experienced in distinguishing diverticulitis of the sigmoid colon from carcinoma.

Clinical Features of Carcinoma of the Body of the Pancreas.

The Royal Melbourne Hospital series contained 12 cases classified as carcinoma of the body of the pancreas. There were 8 male and 4 female patients. The age incidence was similar to that of carcinoma of the head of the pancreas.

In the typical case pain was the dominant symptom. In seven of the 12 cases it was severe, and in two others, although less severe, it was persistent. The pain was referred to the epigastrium and to the left of the middle line. It sometimes passed through to the back. Simple remedies eased the pain at first, but soon these failed, and the patient became exhausted from loss of sleep. Anorexia, nausea and vomiting supervened, with a consequent rapid weight loss. Physical examination did not always disclose the cause of the symptoms, but in other cases a mass could be palpated in the epigastrium. It was difficult to define physical characteristics of the mass because of the deep situation. It was firm, perhaps tender, and did not move with respiration. Investigations gave negative results as a rule, and a laparotomy was necessary to establish a diagnosis.

In three instances in this series there was no pain; one patient discovered an epigastric mass, whilst the other two presented with increasing weakness and fatigue.

In one case, severe pain had been present for three days, although lesser attacks had occurred in the preceding four months. Examination revealed a tender mass in the epigastrium, and at operation an abscess was found in the pancreas from which a *Streptococcus hæmolyticus* was cultured. Pancreatic juice drained from the tube inserted, and as this persisted a further laparotomy was performed, and a cystadenocarcinoma was discovered.

One patient presented with paraplegia, and at autopsy the cause was found to be a secondary carcinomatous deposit from a primary neoplasm in the body of the pancreas.

The lesions causing most confusion were carcinoma of the stomach and carcinoma of the transverse colon. Carcinoma of the stomach was often associated with vomiting and anæmia. If there was a palpable mass in the epigastrium, it tended to move with respiration and it possessed lateral mobility. A mass large enough to be palpable in the epigastrium and caused by a carcinoma of the stomach was often associated with ascites and peritoneal nodules and more distant involved lymph nodes. A carcinoma of the transverse colon was placed superficially, and was rarely of large size unless complicated by abscess or by secondary deposits within the omentum. Carcinoma of the transverse colon was usually associated with alteration of bowel habit and the presence of blood in the motions.

Clinical Features of Carcinoma of the Tail of the Pancreas.

In the Royal Melbourne Hospital series there were 5 male and 1 female patients. The age incidence was similar to that observed for carcinoma of the body of the pancreas.

In four cases the initial and the presenting symptom was pain, whilst in two it was loss of weight. In other ways the symptoms and signs were similar to those described for carcinoma of the body of the pancreas.

Treatment of Carcinoma of the Pancreas.

In 25 of the 89 cases in this series there was no attempt at surgical treatment. In four, the tumour was discovered at autopsy. (Two of these patients had been admitted to hospital with a cerebrovascular lesion and one with paraplegia.) Eight patients had massive livers or a palpable mass in the abdomen. Nine were admitted to hospital with ascites, clearly of malignant origin. Four were deeply jaundiced and were quickly overwhelmed as the liver failed. In this group of 25 patients, 12 died within a week and 17 within two weeks of admission to hospital.

Laparotomy: No Intraabdominal Procedure Performed.

In 12 cases, a laparotomy was performed, but as nothing useful was possible the abdomen was closed. Ten of these patients died within six months of the operation. One patient survived 11 months, and another was known to be alive four and a half years later, when he was lost to the follow-up department.

Mr. A., aged 61 years, was admitted to hospital on July 4, 1951, with a history of fatigue of six months' duration. For about 18 months he had had pain under the left costal margin, sometimes radiating to the lower left ribs posteriorly. The pain would come suddenly, last a few minutes and then subside. Usually mild, it was severe on occasions. It was sometimes associated with nausea and vomiting. No abnormality was found on physical examination. A barium-meal X-ray examination revealed distortion of the lesser curvature of the stomach. A laparotomy on July 5 revealed a firm, friable, well-encapsulated tumour, 12 by 7 by 5 cm. in size, arising from the body and tail of the pancreas and projecting into the lesser sac. There were some areas of calcification. No glands were felt, but it was decided that the tumour was too extensive to remove. A biopsy showed sheets and strands of epithelial cells lying between dense fibrous tissue. The cells were fairly small, and some appeared to produce mucus to give an appearance not unlike a mixed salivary tumour. The patient recovered from the laparotomy, and subsequently reported to the hospital at intervals. He was last seen in January, 1956, when he had a palpable epigastric mass. He was known to be alive in September, 1956, but has not been traced since.

Remarkable as this case may seem, it bears no comparison with the extraordinary case reported by Cattell

and Young (1957). These Lahey Clinic surgeons record the history of a patient with a carcinoma of the head of the pancreas which had metastasized to the liver. The patient survived nearly 10 years after diagnosis had been verified by biopsy.

Laparotomy: Palliative Procedure.

In this series of 89 cases, 41 patients had a palliative short-circuiting procedure. In most instances this operation was a cholecyst-enterostomy (23 cases). On occasions, the gall-bladder was anastomosed to the stomach (5 cases) or to the duodenum (4 cases) or drained to the surface (1 case). Less commonly, the common bile duct was anastomosed to the duodenum (3 cases) or to the jejunum (2 cases) or drained to the abdominal wall (1 case). In one case a gastro-enterostomy was performed, and in another a loop of small bowel was excised because of a localized thrombosis.

Seven of the 23 patients subjected to cholecyst-enterostomy were dead within a month, 16 within six months and 18 within a year.

Four of the patients in this group believed to have a carcinoma of the pancreas survived two or more years.

Mrs. B., aged 74 years, had suffered for several months from an intermittent dull pain under the right costal margin. She had recently become jaundiced. At operation on December 28, 1956, a carcinoma of the ampulla of Vater was diagnosed. Cholecyst-jejunostomy with jejuno-jejunostomy was performed. She was well two years later.

Mrs. C., aged 66 years, first observed dark urine and a generalized itchiness. She finally became yellow and was admitted to hospital. Laparotomy on August 6, 1951, revealed a carcinoma of the ampulla, with glands considered irremovable. A cholecyst-enterostomy was performed, and she remained well for 18 months. Then followed a long period of ill-health, and she finally died on October 17, 1953, 26 months after operation.

Mr. D., aged 56 years, complained of heartburn and fullness after meals, of two months' duration. Pain developed ten minutes after a meal, passed through to the back and was relieved partly by antacids. A week before his admission to hospital the pain disappeared. Examination showed the patient to be physically in good condition. There seemed to be a tender mass in the epigastrium. A barium-meal X-ray examination revealed vigorous peristalsis in the stomach, but there was a marked hold-up to the passage of barium through the second part of the duodenum, just distal to the ampulla; here the duodenum was narrow and irregular for about 4 cm. Occult blood was not found in the fæces. On September 10, 1953, laparotomy disclosed a firm lump in the head of the pancreas, 3 cm. in diameter. The first and second parts of the duodenum were moderately distended. There were no liver metastases. There were several small stones in the gall-bladder. A biopsy of the area in the pancreas showed normal pancreatic tissue, but the diagnosis of carcinoma was regarded as probable. A cholecyst-enterostomy was performed. In March, 1958, four and a half years after operation, the patients' condition was satisfactory.

Mrs. E., aged 58 years, complained of recurrent attacks of abdominal pain, of five months' duration. The pain was suggestive of biliary colic. A month prior to her admission to hospital she had an attack, after which she became jaundiced, and this was associated with episodes of shivering. She was very frail, and a mass which could be felt under the right costal margin was considered either an enlarged gall-bladder or a tumour in the pancreas. The biochemical tests indicated obstructive jaundice, and laparotomy was performed on May 31, 1950. A hard mass was found in the head of the pancreas. The cœliac glands were enlarged. The gall-bladder was distended, but no stones were present. The gall-bladder was anastomosed to a loop of jejunum, and an enteroanastomosis was constructed in the loop. Her convalescence was smooth. She remained well, and was last seen in September, 1956, six and a half years after operation.

In this series no particular method of short-circuit operation appeared to be better than another. When a loop of jejunum was anastomosed to the gall-bladder, it did not seem to matter if lateral anastomosis was omitted. A short-circuit procedure in cases of irremovable carcinoma of the pancreas was followed occasionally by a surprisingly long survival. Most patients (32 out of 41, or 78%) were dead within six months of operation; 85% (35 out of 41) were dead within 12 months; and 90% (37 out of 41) were dead within two years.

Laparotomy: Radical Excision of the Tumour.

In this series of 89 cases, 11 resections were performed. In six cases the tumour was situated in the ampulla, in three in the head and in two in the body.

In the six cases in which the tumour was situated in the ampulla of Vater, pancreatico-duodenectomy was performed. Two patients died shortly after operation, a third survived for two weeks and a fourth survived for two months. The fifth patient died one year after operation from secondary carcinomatosis. The sixth patient is still alive and free from recurrence six years after operation.

Mr. F., aged 61 years, had lost weight steadily for 12 months, and for three months he had become progressively more jaundiced. The liver was enlarged. On May 15, 1952, a one-stage pancreatico-duodenectomy was performed. Pathological examination of the specimen showed a firm thickening beneath the mucosa around the lower end of the bile duct, 1·5 cm. in diameter, at the ampulla of Vater. The overlying mucosa was injected, but soft. Microscopic examination showed masses of irregular darkly-staining tubules extending through the muscle and submucosal layers. The patient's post-operative course was satisfactory. He was last examined in February, 1959, and was well, although he had developed diabetes.

Three patients with carcinoma of the head of the pancreas were subjected to radical excision. One survived for 10 months and a second for 21 months after operation. The third patient remains well, nearly seven years later.

Mr. G., aged 19 years, was admitted to the Royal Melbourne Hospital on May 11, 1952. Sixteen hours previously he had lost his appetite, and four hours later there was a sudden onset of pain in the centre of the abdomen. The pain passed around the right costal margin into the back. It was very severe, and caused him to roll around and vomit. About eight months previously he had had a similar attack, and had been detained in hospital overnight for observation. Between the attacks he had felt well. The abdomen was too tender to permit satisfactory palpation. Laparotomy revealed a mass, about 10 cm. in diameter, in the head of the pancreas. The surface appeared covered by normal pancreatic tissue. Biopsies of the pancreas and of two lymph nodes were taken, but proved normal. After this exploratory operation the patient continued to vomit at frequent intervals, and so further surgery was thought necessary. On May 21, pancreatico-duodenectomy was performed. Apart from a pancreatic fistula, his convalescence was satisfactory. Macroscopic examination of the specimen showed an ovoid mass, 7 cm. in diameter, in the head of the pancreas. The mass was found to be a reddish, necrotic tumour, fairly well encapsulated, with a narrow rim of pancreatic tissue around it. One or two areas were quite hæmorrhagic. The report on the microscopic examination was as follows:

> The major portion of the tumour is composed of groups of rounded cells of epithelial type. There is considerable reaction with granulation tissue at the edge of the tumour. In one part, however, it is seen clearly to consist of cords and clumps of cells which are rather pale and vacuolated in many cases. Both small and large bands of connective tissue divide the tumour into solid alveoli.

It was concluded that the tumour was a necrotic carcinoma of the pancreas. In some areas the resemblance to islet tissue was close.

Two patients with carcinoma of the body of the pancreas had resection performed. Both tumours were cystadeno-carcinomas.

Mrs. H. had discovered a lump under the left ribs previously. It had not changed, and she continued in good health. Laparotomy on May 10, 1958, disclosed a cyst of the body of the pancreas, which was marsupialized. A fistula continued to drain pancreatic fluid, and hence further operation was performed on December 5, 1949. A cystadeno-carcinoma was removed. She remained well until March, 1951, when she developed a small-bowel obstruction which necessitated an ileostomy to relieve it. She survived a few more months, to die on June 25, 1951, just over three years after her first operation, and 18 months after the resection.

Mrs. I., aged 36 years, had had pain in the upper part of the abdomen for four months and jaundice for a week. She was admitted to hospital with an acute exacerbation

of pain. There was great tenderness in the epigastrium, and after a short period of observation she was submitted to laparotomy, on January 16, 1954. An abscess was found in the body of the pancreas. This was drained, and a *S. hæmolyticus* was cultured from the pus. Pancreatic juice commenced to drain from the wound, and on March 20, 1954, the body and tail of the pancreas were removed. Microscopic examination showed a cystadenocarcinoma of active malignancy. She died on May 20, 1954, four months after the initial operation and two months after the excision.

Summary.

1. Carcinoma of the ampulla presents typically with painless jaundice. Because of the early onset of symptoms, surgical treatment is performed earlier. In this series there were 10 cases of carcinoma of the ampulla. Six patients had a radical resection, and one of these is alive and well six years after operation. One patient who did not undergo resection is alive two years after a palliative short-circuit procedure.

2. Carcinoma of the head of the pancreas is much more common. It presents typically with pain and jaundice, but in this series 13 of 61 patients were not jaundiced and 17 had no pain. Only 3 underwent resection, and one of these patients is alive and well six years later. Two patients treated with palliative surgical procedures were alive six years and four and three-quarter years after operation.

3. Carcinoma of the body of the pancreas occurs with about the same frequency as carcinoma of the ampulla. Pain is the predominant symptom. Only two patients were subjected to radical excision. Both had cystadenocarcinomas, and neither survived long after operation. One patient had a laparotomy only, and was alive and well five years later.

4. Carcinoma of the tail of the pancreas is rare. Pain and loss of weight are the chief clinical features. No patients in this series underwent resection, and none survived longer than nine months.

Acknowledgements.

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BROMUREIDE TOXICITY.

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EVANS (1955) described a series of cases in which the serum bromide levels were raised, in his opinion mainly owing to the excessive intake of mixtures containing potassium bromide and chloral. A series has been collected recently from the institutions of the Mental Hygiene Department, Victoria, in which only one patient had a raised serum bromide level resulting from potassium bromide; in the other cases the elevation appears to have been due to the excessive intake of proprietary preparations containing bromvaletone and carbromal.

Fifteen cases of either proven raised serum bromide levels or abnormal intake of bromide compounds have been collected. The misuse of these drugs presented in several different ways in this series. The results here have been intoxication and bromism, whilst in Turner's (1959) series the outcome was death. In our series, intake varied from acute (even suicidal) overdosage to chronic accumulation of bromide from taking tablets for a long time and psychological dependence which, in turn, produced either acute or chronic overdosage. At times the drugs were used as a substitute for alcohol.

This paper sets out to show there are a significant number of people affected by the bromureides, both with and without a raised serum bromide level. There are several cases of toxic effects without raised serum bromide levels in the recent literature.

Raised Serum Bromide Level and its Significance.

It appears that no distinction is made between organic bromide and inorganic bromide in the standard tests for bromide in the serum. The literature does not distinguish or attempt to discriminate between the "non-toxic organic bromides" and "inorganic bromides". For this reason, the toxic effects seen clinically associated with a high serum bromide level may be due to—(i) a syndrome similar to barbiturate overdosage or (ii) acute or chronic accumulation of bromide in the serum. Both processes may be seen, separately or in part, in the cases listed.

Recently intoxication due to carbromal has been described, in which the serum bromide level has been negligible. Kay and Copas (1959) describe a case in which there were stupor, ataxia and slurred speech, thought to be due to the ureide itself or to some derivative of it. Ronald (1959) also reports a similar case.

It is clear, then, that the serum bromide level only gives an indication of a possible toxic level, which may or may not exist. It gives no indication of ætiology. Application of the Stas-Otto process shows the presence of ureides and can distinguish between those from bromvaletone and those from carbromal (Turner, 1959). This has not been applied to the present series, but would seem desirable in future.

The following data, abstracted from Evans (1955), give a picture of the significance of inorganic bromide in the serum: (i) The normal serum bromide level is 0·5 to 2·0 mg. per 100 ml. (ii) The therapeutic level (for example, in epilepsy) is approximately 75 to 125 mg. per 100 ml. (iii) A level of 100 to 200 mg. per 100 ml. is unlikely to produce symptoms in physically and mentally healthy adults. (iv) Levels over 200 mg. per 100 ml. produce symptoms and signs of intoxication in the great majority of cases. (v) Individual susceptibility is of great importance, as intoxication has been reported down to levels of 75 mg. per 100 ml.

Goodwin and Gilman (1941) make the following statement:

> In any patient in whom unexplained mental and neurological symptoms exist coincident with a blood bromide value of 75 to 100 mgm. per cent., the bromides must be held in high suspicion as the main or contributory cause of the syndrome until they are proved blameless.

Reports of Cases.

The following patients were all female. They were picked up in an unsystematic way—12 at Mont Park, one at Sunbury and two at the Observatory Clinic. All these patients were in hospital in the first six months of 1959, and were picked up either because of toxic symptoms or through their history. These would by no means represent the total number of patients with monoureide intoxications admitted to the Mental Hygiene Department's institutions during this period.

Routine serum bromide estimations were not carried out on newly-admitted patients. Many unexpected high levels might well have been found; this occurred in Evans' (1955) experience, in which 19 of 100 consecutive female patients admitted had raised serum bromide levels, seven of whom were diagnosed as suffering from bromide intoxication. In 1957-1958, Somerville (1959) found that the

percentage was about 4% at the same hospital (Parramatta, N.S.W.). The incidence was thought to be less because less potassium bromide was being prescribed in general medical practice. In this series, however, self-medication is now the main factor to be taken into account.

CASE I.—A married nursing aide, aged 43 years, presented as an inadequate woman who was rejected by her family as the result of mixed religions in her marriage. She was certified and admitted to Royal Park with the following description: "withdrawn and confused and states she has been having hallucinations over recent months, seeing imaginary figures in her room, which suddenly disappear." Her serum bromide level per 100 ml. was 250 mg. on November 15, 1957, 110 mg. on December 6 and 60 mg. on December 16 whilst she was receiving a large intake of salt. On August 29, 1958 she was readmitted to Royal Park; she was taking 20 "Bromural" tablets per night and still not sleeping. She had a serum bromide level of 180 mg. per 100 ml. Her last admission on July 9, 1959, as a voluntary boarder, followed a period of taking 8 to 20 "Relaxatabs" every night. Her serum bromide level was 120 mg. per 100 ml.

This patient was hallucinated and confused at each admission, but when her serum bromide level was low she was quite rational and well orientated. This case demonstrates bromism producing a psychosis which, by the free use of bromureides, this patient has been able to repeat more than once.

CASE II.—This out-patient was a hypochondriacal woman, aged 58 years, with recurrent mild depression, who found it necessary to take three "Relaxatabs" on waking and three at night on the prescription of a medical practitioner. After 18 months on this regimen she was dull and apathetic and had acne of the face. Her serum bromide level was 80 mg. per 100 ml. She admitted to disliking taking any added salt with her food. One week later, when she was off "Relaxatabs" and taking salt, her acne had almost completely cleared and she was much brighter.

The feature of this case was the small dose which, over a long period, produced acne and depression.

CASE III.—A married female receptionist, aged 51 years, a voluntary boarder with recurrent depression, was taking alcohol and an excessive number of "Relaxatabs"; she was admitted to hospital with an added toxic picture. Unfortunately the serum bromide level was not estimated. The picture of confusion on her admission to hospital cleared rapidly.

CASE IV.—A housewife, aged 40 years, had many admissions for hysteria, depressive state, inadequate personality and drug addiction. She was an asthmatic, addicted to Lawson's Cough Mixture (which formerly contained morphine), and she would spend most of her time and money travelling around Melbourne buying old supplies from various chemists. She was in hospital from March 4 to May 2, 1959 and on trial leave until June 5. After a fortnight at home, she again started to take Lawson's Cough Mixture. She also took five to seven packets of "Relaxatabs" in two weeks, and when the serum bromide level was estimated on June 10, it was found to be 140 mg. per 100 ml.

It is possible that this woman had some bromide-containing medicine whilst in an open ward for three days to March 17, when she became drowsy. It is certain that she had none from March 17 till after May 2.

On her readmission to hospital she was very distressed owing to her gross domestic problems, but showed no toxic symptoms other than drowsiness and pinpoint pupils, probably due to the morphine.

In this case, there was a rapid rise of the serum bromide level to 140 mg. per 100 ml., with drowsiness, though without confusion. She was a morphine addict, taking any available sedative tablets when under stress. This case shows a high serum bromide level with little clinical effect on the patient. She may be tolerant to a high serum bromide level, and may not break the organic compounds down rapidly to give inorganic bromide.

CASE V.—The patient was a female, aged 50 years; she was mildly epileptic, and became paranoid, with ideas of reference, when confused and disorientated with overdosage of drugs. She left hospital for one month, and was inadvertently given a potassium bromide mixture in rather large doses. After two weeks she became disorientated, hallucinated and paranoid. On her return to hospital her serum bromide level was 160 mg. per 100 ml. A few months later, when on trial leave for 14 days, she became and remained intoxicated for three days after return to hospital; but unfortunately the serum bromide level was not estimated.

This case, like Case IV, showed a rapid rise of the serum bromide level, and in this case also a bromide psychosis. Comparison with Case IV shows a similar rate of accumulation of bromide, although the toxic effect is most marked with the inorganic bromide.

CASE VI.—The patient was a married woman, aged 52 years; she was hypochondriacal, and habitually took "Doriden", "Amytal", "Bromural" and "Carbitral" to ease her anxiety. One week after her admission to hospital, her serum bromide level was found to be 40 mg. per 100 ml. She was repeatedly agitated and confused, with frequent overdosing with the various tablets.

CASE VII.—A widowed woman, aged 52 years, had had a leucotomy in 1952 for an obsessive compulsive disorder. Her daughter said that she frequently took overdosages of tablets, and was often "dopy" for a few days. Her serum bromide level one week after her admission to hospital was 50 mg. per 100 ml.

This patient showed periodic over-sedation. There was no evidence of bromism.

CASE VIII.—A married hypochondriacal woman, aged 62 years, had taken a few overdosages of tablets in the past. She was admitted to hospital three times for taking "8 oz. of chloral" "to counteract the action of brandy". She had taken many sedatives over a long period, and her serum bromide level was found to be 125 mg. per 100 ml. She was confused and disorientated, her condition suggesting bromism. As she did not take a bromide mixture, it appears reasonable to assume that the raised serum bromide level was due to bromureides.

CASE IX.—The patient was a nursing sister, aged 42 years; she had a hysteroid, neurotic personality and frequently took "Carbrital", chloral and "Relaxatabs". She had no toxic symptoms. She was somewhat intoxicated on her admission to hospital, but her serum bromide level was only 10 mg. per 100 ml.

CASE X.—An unmarried female patient, aged 21 years, took 40 "Relaxatabs" in 24 hours and had a serum bromide level of 30 mg. per 100 ml. Periodically this hysterical girl took massive doses "to forget". The tablets produced coma several times.

This case shows a way in which people with hysterical personalities can use bromureides as a dangerous expression of their neurotic conflicts.

CASE XI.—An unmarried woman, aged 42 years, was employed as a nursing aide. She was dependent and inadequate, and suffered from severe headaches. A gastrectomy and leucotomy had both been performed. She obtained her first job in years, and after two days took a large number of "Relaxatabs", and was found "in a very dazed, giddy and confused state". Three days later her serum bromide level was 60 mg. per 100 ml.

CASE XII.—A divorced woman, aged 31 years, had an immature personality, and was described by her general practitioner as a "'Relaxatab' addict". Although described formerly as schizophrenic, it is now considered that her symptoms were confusional and due to bromide intoxication. No serum bromide estimations were performed, but there is evidence that she had taken up to 45 "Relaxatabs" in one day. In hospital previously, she had described her inability to resist taking "Relaxatabs".

CASE XIII.—A married woman, aged 38 years, described in her history as an inadequate, hysterical psychopath, spent most of her money on "Relaxatabs". She had much hypochondriacal pain and a constant craving for "Relaxatabs".

Cases XII and XIII both show severe habituation, leading to doses which in Case XII could have caused death.

CASE XIV.—An unmarried woman, aged 23 years, was described as a "'Dexedrine' addict", because she took up to 50 "Dexebrom" tablets a day. She was found to have a serum bromide level of 10 mg. per 100 ml.

This serum bromide estimation was made during a suspected drug intoxication, but it is insignificant, except that it led to the identification of the drug concerned.

CASE XV.—A married woman, aged 43 years, was an inadequate neurotic with some alcoholism. She had recently been confused and depressed for several days, and was thought to be alcoholic. Her serum bromide level was

120 mg. per 100 ml., and she admitted to taking large regular doses of "Relaxatabs".

Discussion.

Shaw and Shaw (1959) remark: "In humans, death from carbromal poisoning is almost unknown." However, Turner (1959) from Victoria listed six deaths associated with carbromal and bromvaletone. Shaw and Shaw go on to write: "When drugs can be taken freely there will always be a few psychotics who will overdose themselves." The use of the word psychotic is misleading. Only one, or possibly two, of the patients listed in the present series were psychotic—three in all, when hallucinations due to bromvaletone are accepted as evidence of psychosis. The majority were anxious people with rather inadequate personalities and no psychosis—patients who ordinarily attend local general practitioners. These people tend to take overdoses to seek relief from their neurotic symptoms. In each general practice at which I have worked there were several of these people who, under stress, were likely to become victims of acute or chronic overdosage.

Addiction, with physiological dependence and abstinence syndrome, did not seem to occur in the cases listed. Habituation, indicating psychological dependence, clearly occurred in several of the cases listed.

Habituation to the extent of intoxication due to barbiturates is less common in mental hospital practice than habituation to tablets containing carbromal or bromvaletone. Chronic poisoning by carbromal is not as rare as Shaw and Shaw indicate. The statement that chronic poisoning is always associated with some psychological disturbance is no doubt true. Shaw and Shaw describe two cases of bromism in former alcoholics. Since the development of alcoholism requires a susceptible personality, social convention and availability of alcohol, one can expect to find cases in which drugs are substituted for alcohol, or provide a preliminary process of habituation. In females, the social conventions make a substitute for alcohol more likely.

From the foregoing statements and case histories, there would appear to be a real need for control of bromvaletone and carbromal. Many voices are recommending that these drugs should be dispensed only on prescription. Turner (1959) opens his article with the following statement:

> Each year the Victorian Medico-Legal Laboratories deal with two or three fatal cases of poisoning by the bromureides, carbromal and bromvaletone, derived from proprietary tablets which are obtainable in Victoria without medical prescriptions.

Turner believes that these drugs should be sold on prescription only.

Copas, Kay and Longman (1959) state:

> Carbromal and bromvaletone preparations are widely advertised as "safe" hypnotics but this claim is questionable.

The sale of carbromal without prescription has been condemned by Magnussen (1947), and, since 1947, has been forbidden in Denmark. Others (Barker, 1958; Young, 1958; Seager and Foster, 1958) think the same step should now be taken in Great Britain. C. P. Petch (1959) writes: "May I add my voice to the suggestion that carbromal should not be sold without a prescription." M. M. Glatt (1959) put the position in perspective:

> Doctors dealing mainly with selected populations, such as immature, inadequate, unstable personalities and alcoholics, will sooner or later be confronted with a number of cases of habituation to any new sedative or slumber drug. Other doctors who have less contact with this "habituation prone" segment of the population may hardly ever come across such a case. They may therefore hold quite different views as to the need for legal restriction of the sale of such drugs. Apparently the main question is not whether certain sedative or stimulant drugs will occasionally be found to be habit-forming—they all will, in certain unstable personalities —but whether the misuse by a minority (often followed by serious consequences) justifies or necessitates the imposing of restrictions affecting also the majority who are able to use such drugs sensibly and in moderation.

Ronald (1959) also noted that the British Pharmaceutical Codex listed carbromal as a prompt and safe sedative with the advantage of being less toxic than barbituric acid derivatives. There is good reason to question this B.P.C. statement, since in mental hospital practice few barbiturate intoxications are seen, even though acutely overdosed patients are sent to general hospitals. I certainly have seen very few, compared with the number of patients with raised serum bromide levels. Johnston and Steel (1959) describe the present position in England:

> Considerable concern is now felt in this country about the unrestricted sale of carbromal and bromvaletone. The Ethical Committee of the Pharmaceutical Society has recommended that these drugs be included in Part I of the Poisons List and First and Fourth Schedules to the Poisons Rules (*Pharm. J.*, 1958*c*). The Poisons Board was unable to accept this recommendation, and this decision was upheld by the Home Secretary, but the matter has been referred to the Interdepartmental Committee on Drug Addiction by the Minister of Health (*Brit. med. J.*, 1958; *Pharm. J.*, 1958*d*).

Various tablets containing carbromal and bromvaletone are listed in Australia as being available, but these appear to be fewer than in the United Kingdom. The list is incomplete, and does not include tablets such, for example, as "Aciban Compound", which contains 2·5 grains of carbromal and is used for controlling gastric acidity. Table I shows the classification for each drug in Victoria.

TABLE I.

Tablets.	Carbromal.	Bromvaletone.	Other.	Victorian Prescribing.
"Adalin" ..	5 grains.	—	—	Potent drug.
"Bromural"	—	5 grains.	—	Potent drug.
"Bromoval"	—	4·5 grains.	—	
Bromvaletone	—	5 grains.	—	
"Cabrital"	4 grains.	—	Pentobarbital sodium 1·5 grains.	Specified drug.
Carbromal ..	5 grains.	—	—	Potent drug.
"Persomnia"	195 milligrammes.	—	Bromisovaleryl-urea 65 milligrammes.	Potent drug.
"Relaxatabs"	3 grains.	2 grains.	Calcium phosphate 3 grains.	Potent drug.
"Sedatabs"	1·3 grains.	1 grain.	Magnesium sulphate 1·3 grains. Aspirin 2·6 grains.	Potent drug.
"Sedexin" ..	3 grains.	2 grains.	Calcium phosphate 3 grains.	Potent drug.
"Valuren" ..	3 grains.	2 grains.	—	Potent drug.

The frequency with which carbromal occurs is of interest, in view of the fact that carbromal is a component of "Carbrital", which is responsible for about 50% of the deaths due to barbiturates in the State of Victoria (Turner, 1959*b*). He provided the following table to show the relation of barbiturate deaths to carbromal and bromvaletone deaths in Victoria.

Summary and Conclusion.

Case histories are presented showing the several toxic effects of carbromal and bromvaletone, in terms of (i) acute overdosage similar to a barbiturate overdosage, (ii) high serum bromide levels without toxic effects, (iii) high serum bromide levels with typical bromism.

Ureide disturbances have not been seen with low serum bromide levels, as noted by other observers. No clear distinction can as yet be made clinically between the toxic pictures of the separated ureides on the one hand and those of bromism and bromureide overdosage on the other. For this reason the ureide picture when present may have been overlooked.

Skin lesions noted by Auckland (1959) due to ureides have not been seen.

The following deductions are clear:

1. There are patients showing chronic or acute overdosage with tablets containing one or both of two substances, carbromal and bromvaletone.

2. The serum bromide level may be high enough to cause bromism.

3. Patients affected are those liable to habituation with any drug supplying a psychological need.

TABLE II.
Deaths from Barbiturate and Bromureide Poisoning.

Year.	Barbiturate and "Carbrital".	Carbromal and Bromvaletone.
1956	35	2
1957	39	4
1958	32	3

4. The drug selected is largely a matter of social convention and availability. If alcohol or drug addiction is forbidden, and a preparation is freely accepted by one's friends and family, then the chances of habituation with that preparation are relatively great. If it is also described as safe, and is freely available, the chances are even greater. The chemist is placed in a position to foster this process.

5. It is reasonable that substances containing carbromal and bromvaletone should be supplied only on prescription.

6. The ætiology of bromism has changed from potassium bromide to organic bromine-containing compounds.

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ATTEMPTED SUICIDE, WITH SPECIAL REFERENCE TO BROMUREIDES AND SIMILAR PREPARATIONS.[1]

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Let not thy imagination give thee hope that the grave be a place of refuge for thee.
—*Ethics of the Fathers*, IV, 29.

THERE seems to be little doubt that the author of the foregoing lines directed his advice to those contemplating suicide. As it was written well over 2000 years ago by one of the foremost teachers and most profound philosophers of that period, it will be evident that the problem is an old one. It will not be surprising, therefore, that theologians, philosophers, sociologists and, in more recent times, psychiatrists and physicians have studied the mysteries of this problem; thus a considerable amount of literature has accumulated on this topic.

The object of this paper is to discuss attempted suicide in general, and attempts made with easily obtainable drugs sold over the counter without a doctor's prescription in particular, in the light of experience of patients admitted to the Admission Centre, Darlinghurst, over a period of twelve months—January to December, 1958.

During the period under review, 3688 patients were admitted—2168 males and 1520 females. Of these, 399 (227 males and 172 females) were admitted as a result of attempted suicide by various means. Their ages ranged from 18 to 73 years.

The methods used are shown in Table I.

TABLE I.

Subjects.	Readily Obtainable Drugs.	Gas.	Cut Wrists.	Other Injuries.	Poisons, etc.
Male	74 (32%)	13 (6%)	72 (32%)	56 (25%)	12 (5%)
Female ..	90 (52%)	13 (8%)	24 (14%)	40 (23%)	5 (3%)
Total ..	164 (41%)	26 (7%)	96 (24%)	96 (24%)	17 (4%)

It will be seen that by far the greatest number of attempts (41% of the total) were carried out with easily obtainable drugs sold under various trade names, the active ingredients of which are carbromal and bromvaletone, which go under the generic name of bromureides; all these preparations can be bought in any chemist's shop without prescription. They are extensively advertised as harmless and non-habit-forming, both of which claims, as will be seen below, are not only incorrect, but definitely misleading.

Classification of Patients.

Patients were classified into the following categories: depressive states, 89 (22·5%); hysteria, 76 (19%); personality disorders, 173 (43·25%); frank psychopathy, 61 (15·25%). Of the total number of patients, 12% had previously made suicidal attempts, and of these some had made two and three previous attempts.

Reports of Cases.

I shall quote only two case histories, which are fairly typical (if typical histories can be selected) and representative of this series.

[1] Read at a meeting of the Australasian Association of Psychiatrists on October 13, 1959, at Sydney.

[2] Formerly Medical Superintendent, Admission Centre, Darlinghurst, New South Wales.

CASE I.—The patient, a young girl, aged 19 years, was admitted from a general hospital with a history of an overdose of some 40 tablets (30 bromureide tablets and 10 "Doriden" tablets) bought at a chemist's shop. This was her second attempt. She had had a stomach washout before reaching the Admission Centre. On her arrival, she was drowsy and suffering from a toxi-confusional state due to bromide intoxication; this cleared up after a few days' appropriate treatment. Her parents gave the following story. She is the second of three children. She was always a "highly-strung child", wanting her own way and unable to stick to anything for any length of time. During the last few years she became very demanding, and for the least thing "blew up". She had had a number of jobs, but could not settle down to any of them. She constantly quarrelled at home. She had had psychiatric treatment, but would not continue with it. She had had no serious illnesses. The patient said: "My parents always quarrel, they have not time for me, they show me no love, they drink." The parents denied this. It is interesting to note that her second attempt was carried out while she was staying with friends.

On examination of the patient, she was found to be an intelligent girl, with an intelligence quotient of 118 on the Wechsler-Bellevue scale, emotionally immature and unstable. She had no insight, and apparently did not learn or attempt to benefit from past experience. In view of her previous attempts and her personality disorder, it was thought that she should be transferred to a mental hospital for more extensive treatment, although it must be said that her prognosis is doubtful.

CASE II.—A man, aged 67 years, was admitted to hospital after having swallowed some 50 tablets—another 120 tablets were found in his pockets; these were identified as "Relaxatabs". When he recovered from his bromide intoxication, he was found to be suffering from endogenous depression. He stated that he would have no hesitation in taking the rest of the tablets and was sorry he was discovered and stopped. He was transferred to a mental hospital.

Apart from some of the attempted suicides, which were mostly carried out under the influence of alcohol, most cases assumed a very similar nature.

Psychopathology.

Moll (1956) points out that in order to understand suicide one has to give due consideration to the attitudes which people, both "normal" and "abnormal", have towards the idea of death and dying.

The meaning of death has been the object of many speculations through the ages. Any average person at some time or other during the course of life has given a thought to death and even to suicide, though such thoughts are much more frequent in people suffering from psychiatric disorders.

Stengel (1955) thinks that the idea of death has a different meaning according to whether the patient is suffering from anxiety hysteria or obsessional neurosis, or from depression and schizophrenia. In the hysterias the meaning of death is mainly one of separation from the beloved one, and the main fear expressed by people suffering from neurotic anxiety is that of sudden death, either of themselves or of another person to whom they are attached by a close emotional tie. Sudden death in such cases means a separation from the loved object and suicide a means of reunion with that object.

In cases of depression the idea of eternal destruction is paramount. In the delusions of guilt one constantly sees this preoccupation with death ideas. Indeed, in depressions, the idea of self-destruction seems to be related to self-hatred or loathing—the so-called symptom of "personal unworthiness" (Freud, 1933).

In schizophrenia, death is not absolute, and Bromberg and Schilder (1936) suggest that the problem of death is closely connected with the problem of space and time. "We not only live in space and time but we project a change in the space and time relations in death."

Is attempted suicide or suicide itself an irrational act? There is divergence of opinion as to whether a person attempting or committing suicide is or is not an irrational human being. Some believe that suicide can be quite a rational act arising from despair and hopelessness in a particular situation in a perfectly normal individual. Others hold that suicide occurs only in people who are, at least at that particular time, "of unsound mind". Zilboorg (1936), in his historical review, outlines some of the changing concepts on this topic. He points out that St. Augustine was one of the first to postulate that suicide is a sin. Plato, some 2500 years ago, held that suicide was a dishonourable act, because a citizen had no right to deprive society of his civic life without the permission of a magistrate. In biblical law, too, the suicide had to be buried in a special and inconspicuous spot in the cemetery away from others. Aristotle condemned the practice of suicide, while Seneca, on the other hand stated: "If life pleases you, live; if not, you have a right to return whence you came."

Today, in the light of our improved knowledge of psychological mechanisms, we as psychiatrists have learned to accept the powerful forces of both conscious and unconscious processes, and we tend to challenge the assumption that suicide or attempted suicide can be committed by a "normal" person. However, since there is an absence of generally accepted criteria of normality, this controversy appears to be one of semantics rather than of substance.

Discussion.

It has been stated that there are individual preferences among persons attempting suicide. Batchelor (1954), in 200 cases of attempted suicide in psychopaths, found that the passive method by drugs was preferred. Ettlinger and Flordh (1955), in their excellent paper on their experience of 500 cases, also found that among the suicidal methods employed there was a preponderance of drugs. This fact has been found to be so in the present series.

It is not really hard to see why this should be so. Firstly, there can be no doubt that anyone resorting to drugs of any description is suffering from some form of mental instability, while initially some patients will take these drugs as a sort of a lever or, to use their own words, "something to help them carry on". There can be no doubt whatsoever that before long they become habituated to them; what is more important, they develop toxic signs, they become depressed, and if they have not previously had any suicidal thoughts, or even if they had but were not prepared or indeed were unable to translate such thoughts into action, they do so under the influence of these drugs.

Secondly, many so-called "pseudo attempts" are carried out with these drugs simply because they can be obtained without prescription and with the greatest of ease.

According to available sources, the incidence of attempts at suicide appears to be rising in several countries. It should be emphasized that attempted suicide is without any shadow of doubt a symptom of mental abnormality. Whether this is a personality deviation such as emotional instability, alcoholism, psychopathy or a depressive state is not really of practical importance; what is profoundly important is that every attempt at suicide must be regarded as a danger sign, and calls for every possible attention. Even suicidal thought expressed by the patient should not be taken lightly. Superficially, suicidal attempts may appear immature, hysterical. Suicidal attempts often have the character of an appeal to a specific person or to society at large. The precipitating causes or motives are often connected with problems in human relationships on the one hand and with social factors on the other. Some attempts appear to be stimulated by physical and mental stress, whereas psychotic attempts are the manifestation of self-guilt or other pathological thoughts or ideas.

It cannot be too strongly emphasized that suicidal attempts should be thoroughly investigated, even though it must be stated that the mode of reaction is in most cases inherent in the personality. Nevertheless, a great deal can be done by subjecting each patient to a full psychiatric investigation. I am quite certain that it should be possible to greatly reduce the number of attempts by prohibiting the sale of many of the drugs which are of no value to the patient but are dangerous. These

preparations, as stated above, are extensively advertised and are grossly misrepresented as being not dangerous and non-habit-forming—both of which statements are false. Recently seven deaths have occurred in Victoria from poisoning by these drugs (Turner, 1959).

In view of our experience here with these drugs, it is strongly suggested—indeed, a firm appeal is made—that the sale of these preparations without a doctor's prescription should be prohibited.

Acknowledgements.

I wish to express my sincere thanks to the Director of State Psychiatric Services for permission to publish this paper. I am indebted to Miss Vera Moore, Librarian of the Department of Public Health Library, for her invaluable assistance in obtaining references and journals.

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IMMEDIATE REACTIONS TO PROCAINE PENICILLIN INJECTION, WITH A REPORT OF THREE CASES.

By M. D. GROUNDS, M.B., B.S.,
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SUDDEN reactions to penicillin are comparatively rare, in spite of the increasing incidence of allergy to penicillin. A recent large-scale survey of penicillin reactions made by the Research Committee of the New South Wales Faculty of the Australian College of General Practitioners (1959) reported seven immediate reactions to penicillin in 6832 patients given penicillin. One of these reactions is more fully described and closely resembles the cases to be reported below; the treatment is not reported. In the six other cases, the reactions are described as various degrees of anaphylaxis.

The "Extra Pharmacopœia" (1958) quotes a variety of fatal adverse reactions, with 20 deaths following intramuscular administration of various forms of penicillin. Bell (1956) considers that some adverse reactions, including death from pulmonary embolism, could be attributed to accidental intravenous injection. Since the injection of penicillin is a very common procedure in hospital and domestic practice, it is well that cases of adverse reaction should be reported, and the treatment kept in mind. Roxburgh (1959) reported a case of immediate fatal reaction to an intramuscular injection of procaine penicillin; the patient failed to respond to adrenaline given intramuscularly and artificial respiration.

Three cases of immediate reaction to the intramuscular injection of procaine penicillin will now be reported.

Reports of Cases.

CASE I.—A carpenter, aged 31 years, was given an injection of 600,000 units of procaine penicillin deep into the upper outer quadrant of one buttock for an early acute superficial infection of a hand with lymphangitis. A "Viule" cartridge syringe was used. Aspiration was attempted by the use of the metal hook then fitted to these syringes for engagement with the rubber plunger, but the hook failed to grip the rubber well. The injection was made without incident, but it was noted during cleaning immediately afterwards that there was blood in the needle. At the same time the patient stated that he felt "very funny". His sensations were blurring of vision, intense and increasing hot flush, general weakness, difficulty in swallowing, and a deafness to deep notes (so that my voice reminded him of the sound of a small cheap wireless). He had partially redressed himself and remained standing. His symptoms did not change on lying down. The pulse was fairly slow and full.

Some thiopentone was obtained from the Bush Hospital next door, and intravenous injection was commenced within three minutes of the former injection; 0·45 gramme of thiopentone was given in 9 ml. of water. This resulted in immediate relief of all his symptoms, and a normal state of cerebration except for slight confusion. Shortly afterwards he was able to walk to a stretcher. He commenced to shiver, and after ten minutes his temperature was 100·4° F. A hypodermic injection of 0·5 mg. of "Prostigmin" was given ten minutes after the first injection.

Twelve hours later he seemed quite normal. Further injections of procaine penicillin were given without incident, and the infection resolved rapidly.

This man had a mild anxiety neurosis, with occasional bouts of alcoholism. His neurosis appeared to be severely aggravated by the above-mentioned incident, and he suffered neurasthenia, palpitations on exercise and headache for several months. He was examined by Dr. Keith Millingen, of Hobart, who considered that the condition was akin to post-traumatic cerebral dysfunction, finding signs of no specific cerebral or other lesions. The patient was subsequently killed in a motor-car accident.

CASE II.—A woman, aged about 25 years, was given by a trained nurse an injection of 600,000 units of procaine penicillin for early puerperal fever with offensive lochia. The injection was made deep into the upper outer quadrant of one buttock with a metal and glass syringe and needle. The needle was inserted and observed, and the syringe was attached and aspiration attempted before injection. Within thirty seconds the patient complained of an alarming sensation of light-headedness and unreality without any depression of consciousness. Within three minutes she was given 0·35 gramme of thiopentone by intravenous injection. This relieved her symptoms immediately and rendered her slightly drowsy, although she continued to answer questions and was fully cooperative. No further injections of penicillin were given.

The only apparent possible sequel of this event was a relative dilatation of one pupil, with persistence of all normal pupillary reactions; this lasted for several months at least.

Since these events I have carried thiopentone in my visiting bag.

CASE III.—A man, aged 24 years, was given at home, at midday, an injection of 600,000 units of procaine penicillin for cellulitis of one ankle. The injection was made into the belly of the left triceps muscle, with a "Viule" syringe fitted with a threaded metal plunger, to engage with a threaded metal insert in the rubber plunger of the cartridge. Aspiration was attempted before injection; the plunger moved one-quarter of an inch without sign of blood.

Within thirty seconds the patient complained of a numb feeling all over, a dry tingling tongue, tinnitus, and accentuation of high notes so that voices sounded "rattling". He was able to stand and walk to a chair. Within two minutes an intravenous injection of thiopentone was commenced; 0·25 gramme gave almost complete relief of his symptoms; 0·45 gramme made him quite drowsy, and he put himself to bed, where he slept for a quarter of an hour. He spent the afternoon in the local betting shop with his usual moderate lack of success. This was the last of five daily injections of procaine penicillin. No remote sequelæ have been observed.

Discussion.

The very early onset of symptoms in these three cases can be due only to intravenous administration of the toxic agent. Dilling (1951) describes anaphylactic shock as being rare in humans, and as taking from half an hour to three hours to develop after subcutaneous injection; he implies that a more rapid and more severe response follows intravenous injection. An onset fifteen minutes after the oral administration of benzathine penicillin is reported by Bell (1956). I have observed a very severe

allergic reaction with widespread urticaria and collapse developing fifteen minutes after injection, after a positive response to the horse-serum skin test.

These three patients did not show any typically allergic reactions. There were no cutaneous or bronchial signs or symptoms. The responses can be explained wholly on the basis of interference with cerebral function. Such interference has been ascribed by some to cerebral microembolism; but in these three cases immediate symptomatic response and tolerance to parenteral barbiturate therapy indicate procaine intoxication as the main factor.

Procaine penicillin contains approximately 240 mg. of procaine to 600,000 units of penicillin. The intravenous dose of procaine is given as 4 mg. per kilogram in twenty minutes (that is, 280 mg. for a man weighing 70 kg.), and not more than 40 mg. per minute (Extra Pharmacopœia, 1958). Accidental intravenous administration of procaine penicillin may therefore exceed the acute toxic dose of procaine even in the absence of hypersensitivity.

Allergy to local anæsthetic agents is well known, and hypersensitivity to the general effects of procaine has been described, with reports of deaths following the injection of as little as 10 mg. of procaine (Extra Pharmacopœia, 1958). The toxic effects of cocaine and its relatives may include tachycardia, a feeling of impending death, vomiting, fever, excitement and confusion, and pupillary dilation. Hypersensitivity may produce cardio-vascular collapse (Extra Pharmacopœia, 1958). Intravenous barbiturate therapy is recommended for intoxication with cocaine and related drugs (Extra Pharmacopœia, 1958), but not in any reference examined for reaction to procaine penicillin therapy.

In the second and third cases quoted above, intravenous administration seems to have occurred in spite of adequate precautions. The apparatus used in the first case rendered adequate precaution very difficult, and is no longer available. It is still possible to obtain procaine penicillin in throw-away syringes which do not permit aspiration.

It may thus be that some fatal reactions (perhaps including Roxburgh's case) have resulted from procaine intoxication, which may have been aggravated by hypersensitivity, rather than from penicillin anaphylaxis. In cases of immediate collapse after an intramuscular injection of procaine penicillin, therefore, the intravenous administration of thiopentone would seem to be as strongly indicated as that of adrenaline. The absorption of adrenaline given subcutaneously or intramuscularly is too slow to be of benefit in immediate reactions, although recommended (Dilling, 1951) in the less hyperacute reaction called anaphylaxis. However, it is stated that for the sudden cardio-vascular collapse due to idiosyncrasy to amethocaine there is no antidote, and treatment must be symptomatic (Extra Pharmacopœia, 1958).

It is generally accepted that no drug should be administered when its antidote, if any, is unavailable; thiopentone and a large syringe should be carried in the visiting bag.

Summary.

Three cases are reported of an immediate adverse reaction to the injection of procaine penicillin, with response to an injection of thiopentone.

It is concluded that the reactions were due to accidental intravenous administration and acute procaine intoxication.

The use of thiopentone in such cases is recommended.

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INTOEING IN CHILDREN.

By PETER F. WILLIAMS, F.R.C.S.,
Melbourne.

MINOR abnormalities of gait, particularly those associated with inturning of one or both feet, constitute one of the commonest worries which assail parents of young children. While it is true that the vast majority of these children require no treatment, many parents are unwilling to accept reassurance without an adequate explanation and eventually seek an orthopædic opinion to set their minds at rest. This paper is an attempt to clarify a subject which is either omitted from or poorly covered in most standard texts on orthopædic surgery, but which, nevertheless, constitutes a common problem to both the general practitioner and the specialist.

Causes.

The cause of intoeing may lie at one or more of three anatomical sites—in the foot, in the tibia or in the hip joint. One, two or all three sites may be implicated in a given patient. Sometimes a minor degree of deformity

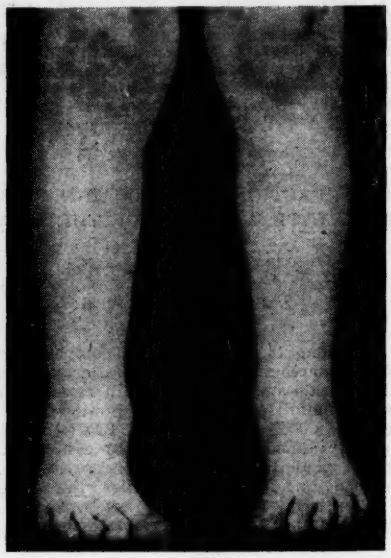

FIGURE I.

may be present at each site; taken singly, each would be unimportant, but when the effects of all are summated, the functional result can be quite marked.

Causes in the Foot.

Intoeing, or walking "pigeon-toed", is frequently a protective gait to guard against foot strain, and may also be produced by shoes which are too short for the foot. When there is no obvious structural abnormality apart from a mild flat-foot condition and the shoes are of correct size, foot strain can be assumed to be present, especially if intoeing is found to be most in evidence towards the end of the day.

There are two more important causes of intoeing seen in the foot which call for more detailed discussion.

Metatarsus Adductus.—If the feet of a large number of children aged under three years are examined, it becomes apparent that about half of these show a tendency to incurving, so that when the child is standing the medial

border is concave and the great toes tend to point towards each other (Figure I). A few show this tendency to a more noticeable degree, and it is to these that the term metatarsus adductus is applied, for it consists of a pure adduction deviation of the metatarsus on the tarsus. When viewed from behind, the feet usually appear as flat feet, for the hind foot stands in the valgus position. Metatarsus adductus can almost be considered a postural

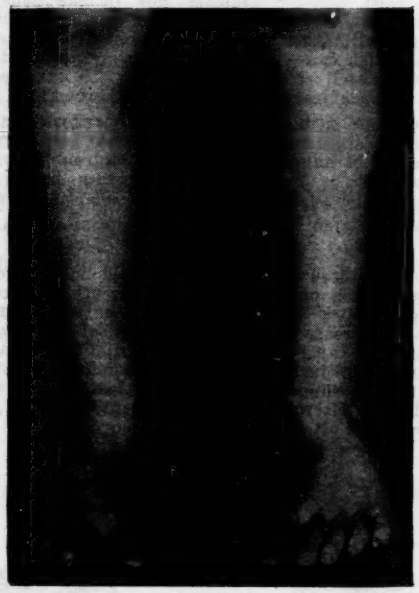

FIGURE II.

deformity, in that there is no structural abnormality in the radiographs and the deformity can often be almost fully corrected passively. It is very common, and accounts for a good proportion of the children aged under three years who present with intoeing.

Metatarsus Varus.—In contrast to the previous deformity, metatarsus varus is extremely uncommon. Although it

FIGURE III.

was fully described by Peabody over twenty years ago, the condition has since received only scant attention in the literature, and most of the current texts on orthopædic surgery make no mention of it. Nevertheless, it is seen sufficiently frequently and its effects are sufficiently crippling to warrant description here.

Metatarsus varus is a true structural deformity of congenital origin, in which the forefoot is not only adducted but twisted into supination, the longitudinal arch is high and the hind foot is valgoid. X-ray films show that all the metatarsals are incurved. All this gives the foot a curious sickle shape when viewed from in front, and the gait is correspondingly ugly (Figure II). Small children tend to trip and stumble, whilst older ones develop painful calluses on the outer border of the foot, and their shoes rapidly lose their shape and wear through. At all times difficulty is experienced in selecting shoes to fit these feet properly. Untreated, the deformity tends to worsen, whereas most children with metatarsus adductus will tend to grow towards normality.

Causes in the Leg.

Causes in the leg operate up to the age of two years, or at the most two and a half years, for it is during this period that the normal leg below the knee enjoys a distinctly bowed appearance. This outward curve of the tibia is always associated to a greater or lesser

FIGURE IVA.

degree with an inward twist, so that when the patella faces ahead the feet are directed inwards. Tibial torsion varies in severity from about 10° almost up to 90°, and the degree of intoeing in the gait is directly proportional to this. It is to be noted that the outward curve of the tibia presents the foot to the ground on its outer border, so that a compensatory pes valgus becomes established. Although the tibial deformity is present from birth, it usually passes unnoticed until the child commences walking, and as proficiency in walking is gained, persistent tripping and stumbling become a feature.

Many of these children who exhibit a severe deformity are overweight, and nearly all are of sturdy build.

It is a curious observation that the child's parents are rarely concerned at this stage with the bandiness (indeed, they will often deny its existence), but present for advice on the insistence of relatives or neighbours, who believe that something must be wrong with the child's legs.

Causes in the Hip.

The normal hip joint at any age has a range of rotation in each direction which is approximately equal. Whilst it is difficult to estimate the incidence at large, in orthopædic practice children are commonly seen who exhibit an excessive range of internal rotation with a considerably diminished range of external rotation, and in these cases the history is often advanced that the children habitually sit as shown in Figure III—a position which a normal individual finds acutely uncomfortable.

The condition is easily recognized if the child is lying supine and the examiner stands at the end of the couch with one hand grasping each foot, movements of the patellæ being observed as the two movements are made. It will usually be found that the patellæ can be made to face each other (representing 90° of internal rotation),

FIGURE IVB.

whereas external rotation will be possible to only about 15° to 20° degrees. The importance of this finding cannot be over-emphasized, for it is the key to a variety of postural defects seen in children between the age of three years and maturity. The mode of presentation is threefold.

Firstly, since the neutral position of the hips lies in a varying degree of internal rotation, intoeing is usually present. This syndrome is more common in girls, in whom it is first noted at the age of about four years, and may persist until the deformity has been corrected by growth up to puberty. Occasionally it persists into adult life and is responsible for a very unsightly gait.

Secondly, the condition is seen in children with flat feet, who are referred because of their failure to respond to the accepted conservative measures. Here, despite the deformity in the hips, the gait is not intoed, for the feet have externally rotated on the leg, and this valgus deviation produces an apparent flat-foot deformity. (It is, of course, important to recognize the basic fault, as much time and energy may be expended on treating the feet when the trouble lies elsewhere.) The mechanism is easily clarified by standing with the feet parallel; when the patellæ are turned outwards the longitudinal arches are raised, and when the patellæ are turned inwards the arches are lowered to produce a valgus foot.

Finally, bow-leg in older children and adults is nearly always due to this rotational defect. The reason is that the legs when viewed from the side are slightly curved, and the plane of the curve is changed by rotation of the legs.

Treatment.

The most difficult problem lies in the selection of patients for active treatment. A majority of those examined will exhibit deviations from the average adult posture which can be considered entirely normal for their age group, and which can confidently be expected to be corrected spontaneously with further growth.

Unfortunately, no rigid rule can be formulated, and there is no substitute for the experience gained from the observation of numbers of growing children. However, an attempt will be made in the following paragraphs to indicate which deformities can reasonably be regarded as requiring treatment.

Foot-Strain.

Intoeing caused by foot-strain should not be treated by placing wedges on the lateral aspect of the shoe. This further pronates the foot, increases the strain and often results in increased intoeing to compensate. In most cases the condition can be alleviated by medial heel wedges one-quarter of an inch thick, and occasionally small longitudinal arch supports of moulded leather are required in addition. Exercises are a complete waste of time in the treatment of children.

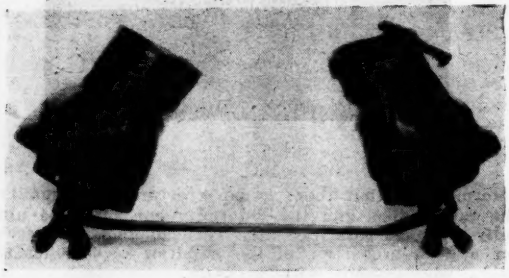

FIGURE V.

Metatarsus Adductus.

In mild cases, in which the deformity is just noticeable, it can be disregarded. Moderate deformity will usually respond to wearing the shoes on opposite feet, both day and night, for four to six months. If the deformity is so severe and unsightly that the child appears to walk with the great toes pointing towards one another, manipulation of the foot under anæsthesia and immobilization in plaster in the corrected position should be advised. After about four weeks, the plaster splint can be removed and replaced by a suitable moulded aluminium night splint to encourage maintenance of the correction.

Metatarsus Varus.

Practically none of these patients will respond to conservative treatment. Occasionally success can be obtained by repeated manipulations under anæsthesia; but the most satisfactory result is obtained by osteotomy of the medial four metatarsals at the proximal ends. If the cavus element is marked, preliminary tenotomy of the plantar fascia with wrenching is advisable.

In successfully treated patients the gait is improved and the foot can be fitted into normal footwear.

Tibial Bow-Leg.

Since the existence of this posture is a normal phase of growth, in most cases it will resolve without special

treatment. As a rough guide, it can be said that if the tibial intorsion is in excess of 20° and the bow-leg greater than 2 in. measured between the knees while the child is standing, treatment with night splintage should be advised. The splint devised by Dennis Browne is favoured for this purpose, and if used for four to six months will almost always produce correction (Figure V).

Very rarely indeed cases occur in which the condition persists despite this measure, and in these tibial osteoclasis is available.

Inset Hips.

It is fortunate that this condition is favourably influenced by growth, for there is no known conservative treatment which exerts any influence. A good prognosis can be given, with the proviso that restoration to normality may often be incomplete until puberty is reached.

On rare occasions, the ugly gait persists and may be so marked as to justify surgical correction. This is obtained by rotation osteotomy of the femur at the subtrochanteric level—a procedure which gives particularly gratifying results.

Summary.

1. A short account is given of the factors responsible for intoeing in children.
2. Stress is laid on the value of recognition of the cause and its proper explanation to the parents.
3. Treatment is briefly outlined.

THE AUSTRALIAN GASTRIC ULCER CHANGE: FURTHER OBSERVATIONS.

By B. P. BILLINGTON, M.R.A.C.P.,

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IN a previous communication (Billington, 1960), attention was drawn to a curious change in the incidence of chronic gastric ulcer since 1945 in Australian women, which does not appear to have a parallel in other parts of the world. There has been an abrupt rise in incidence and mortality amongst women under the age of 40 years, coinciding with a declining mortality in men. It was predicted that the male to female ratio of 2:1, which is a general character of the disease in most countries, and which held in Australia until 1940, would have changed to 1:2 by 1965. It was pointed out that environmental factors were likely to be responsible, but no information as to their nature could be suggested, nor whether they acted towards the formation of gastric ulcers, or against healing and so promoted chronicity.

The present study attempts to delineate the time of onset of the changed environmental conditions, and to suggest that they acted in the direction of ulcerogenesis.

Material.

In-patients records for Sydney Hospital and Royal Prince Alfred Hospital have been examined, in two categories—(*a*) chronic gastric ulcer in women aged under 40 years, and (*b*) perforated gastric ulcer in women. Case records containing histological confirmation of the diagnosis of chronic gastric ulcer, at either autopsy or resection, together with those containing a definite radiological report of a gastric ulcer crater, in women who were under the age of 40 years at the time of admission to hospital, were scrutinized, and the information regarding the year of onset of symptoms which could reasonably be attributed to gastric ulcer was recorded. This information was tabulated according to the year of admission for the period between 1940 and 1949 inclusive.

Cases of acute perforated gastric ulcer in women were tabulated according to the age of the patient on admission to hospital, and the year of admission, for the years 1930 to 1954 inclusive. Only cases providing macroscopic proof of the diagnosis either at autopsy or at emergency laparotomy were included. Records in which terms such as "pyloric ulcer" and "juxta-pyloric ulcer" appeared were disregarded, as were those in which no description of the site of perforation was given, and in which inconsistencies between operation slip, resident's description and final diagnosis were found.

Results.

Chronic Gastric Ulcer.

The year of onset of symptoms in 65 women under the age of 40 years with chronic gastric ulcer, together with mean age of onset, is shown in Table I, in which

TABLE I.

Chronic Gastric Ulcer, Females, Aged Under 40 Years: Year and Age at Onset of Symptoms According to Period of Admission to Hospital.

Year of Onset.	Period of Admission to Hospital.		Total.	Age (Years—Mean + S.E.).
	1940 to 1944.	1945 to 1949.		
Before 1935 ..	3	0	3	
1935	0	0	0	
1936	0	0	0	
1937	1	0	1	
1938	1	2	3	28·75±1·63
1939	2	1	3	
1940	4	0	4	
1941	1	1	2	
1942	0	0	0	
1943	2	5	7	
1944	2	5	7	
1945		6	6	
1946		7	7	30·47±0·80
1947		14	14	
1948		6	6	
1949		0	0	
Unknown ..	0	2	2	
Total	16	49	65	

patients admitted to hospital in the period 1940 to 1944 are separated from those admitted in the period 1945 to 1949. It is apparent that a slight rise in numbers had

TABLE II.

Chronic Gastric Ulcer, Females, Aged Under 40 Years: Duration of Symptoms in Relation to Period of Admission to Hospital.

Period when Symptoms Began.	Number of Patients Admitted During Three-Year Period.		
	1940–1942.	1943–1945.	1946–1948.
Period of admission ..	3	9	12
In three years prior to admission period ..	4	2	10
More than three years prior to admission period ..	3	3	2
Total	10	14	24

occurred before 1945, and the material has been rearranged by three-year periods in Table II. This clearly indicates that, in Sydney, the increase of ulcer dates from the period 1943 to 1945 — that is, the second half of World War II.

Perforated Gastric Ulcer.

Three periods are compared in Table III, in which the number of cases in three age groups are recorded. It shows that there was a definite rise in the number of perforated gastric ulcers between 1930-1939 and 1945-1954, involving predominantly younger women. There is a significant increase in the proportion of patients under the age of 40 years in the period 1940-1944 when compared with the period 1930-1939 ($P < 0.05$), which indicates that the increased number of perforated gastric ulcers in young women dates from the war years. There are only three cases in this age group for the period 1930-1939, and all occurred in 1935; the likelihood of this being accounted for by chance is 1 in 100.

TABLE III.

Acute Perforated Gastric Ulcer in Women According to Age and Period o Admission to Hospital.

Period of Admission to Hospital.	Age (Years).			Total
	0 to 39	40 to 59	60 and Over.	
1930 to 1939 ..	3	10	4	17
1940 to 1944 ..	5	2	2	9
1945 to 1954 ..	37	23	8	68
Total	45	35	14	94

Discussion.

Although information using the date of admission to hospital pointed to the rise in the incidence of chronic gastric ulcer in young women occurring after 1945, consideration of case histories and dates of onset of symptoms clearly indicates that the change dates from 1943 in Sydney—that is, during, not after, World War II, and this is confirmed by the evidence relating to acute perforations. Speculations on the responsible factors are not justified at the present time, but any investigation in this direction may be aided by precise knowledge of the time at which the change in incidence began. The remarkable rise in acute perforations does not imply that the gastric ulcers appearing in young women have any greater tendency to perforate, but merely parallels the generally rising incidence of gastric ulcer in women of this age group. In some patients under the age of 40 years, acute perforation was the first manifestation of gastric ulcer, although the case records are unreliable in ascertaining the exact proportion of cases. Since the rise in the incidence of perforations parallels the change in incidence of chronic gastric ulcer on the basis of symptoms, and coincides with it in time, it seems reasonable to conclude that the environmental factors have been related to the production of gastric ulcers, as opposed to the prevention of healing and promotion of chronicity. Investigations along similar lines at other Australian centres seem justified to confirm 1943 as the year in which the change began, and any difference may be of importance when possible causal factors are considered.

Summary.

Within the limits of a retrospective survey limited to hospital in-patients, evidence is adduced to show that in Sydney the rising incidence of gastric ulcer in young women began in 1943, and that the responsible environmental factors were concerned with the production of ulcers rather than with the prevention of healing.

Reference.

BILLINGTON, B. P. (1960), "Chronic Gastric Ulcer: Age, Sex and a Curious Retrogression", *Aust. Ann. Med.*, 9: 111.

Reports of Cases.

OBSTRUCTED LABOUR.

By R. N. NELSON,
Ayr, North Queensland.

The following case is one of obstructed labour of unusual causation.

Clinical Record.

The patient, a woman, aged 26 years, had had two normal pregnancies 10 and six years previously, and a miscarriage five years previously. In April, 1958, she was found on the floor in a state of collapse. A diagnosis of ruptured ectopic gestation was made, and she was admitted to hospital for immediate operation. At operation the right Fallopian tube was removed. It was briefly noted that there were numerous adhesions to the left tube and ovary. The patient received 3 litres of blood, and her recovery was uneventful.

On October 27 the patient complained of low hypogastric pains and dizziness. She said that her last menstrual period had commenced on September 20. On examination of the patient, the uterus was slightly enlarged and the cervix soft. Pregnancy was thought unlikely in view of the condition of the remaining Fallopian tube noted at operation. However, "Duogynon" tablets were exhibited and failed to produce any bleeding, and pregnancy was diagnosed on November 3. On November 7 the patient said that she had lost some clots with bright blood on November 4, but by the time when she was examined on November 10 there was no evidence of any loss. On that day, however, dysuria was present, which cleared in a few days on treatment with "Urolucosil".

Pregnancy proceeded normally until February, 1959, when the patient was found in a stupor. It transpired that she had swallowed about 19 "Nembudiene" tablets, which she had been taking for backache at night. The patient was of an hysterical type, emotionally immature (a ditherer), and had apparently taken two tablets, forgotten she had taken them, and repeated the process every hour or so until stupor intervened. There was no evidence of suicidal tendencies.

The patient now had two further episodes of slight bleeding, and she was admitted to hospital on April 25. At that time the uterus was much larger than normal. An X-ray examination revealed only a single fœtus, and the condition was diagnosed as hydramnios. In hospital the patient had intermittent contractions and loss of brown blood, and eventually regular contractions commenced on May 1, eight weeks before her expected date of confinement. In labour the head presented normally and was delivered normally, followed by the shoulders, which were brought out with some difficulty. Despite firm traction on the fœtus, no further progress could be made. The patient was then anæsthetized and a hand passed up along the fœtal body. Attached to the perineum was felt a large round rubbery mass, at first thought to be a scrotum; but the scrotum was then identified separately. The conclusion was drawn that delivery would be impossible until the tumour was broken up in the uterus. A short interval was allowed to elapse until the fœtal heart ceased to beat, and the tumour was then broken up by repeated stabbing with a Drew-Smythe catheter. This was not easy. Eventually the tumour was reduced to a sufficient size to be extracted, although a second-degree perineal tear was produced in the process. The puerperium was uneventful.

The fœtus was well formed and weighed approximately five pounds. To the perineum was attached a large mass covered by skin. This was dissected off and sent to the Laboratory of Microbiology and Pathology, Brisbane, and the report from Dr. A. Davison is as follows:

Macroscopic.

A mass of tissue (13 × 13 × 12 cm.) partially covered by wrinkled skin (15 × 8 cm.). Part of the anal verge is included.

On section the mass is seen to be composed of irregular lobules of white opaque gelatinous substance, some of which appear to be encapsulated. In some areas evidence of degeneration is seen in the hæmorrhagic appearance and associated yellowish white areas. Small cysts up to 0·9 cm. diameter containing clear fluid are present.

The overlying skin is attached to the tumour capsule at intervals leaving large spaces which also appear to have a membranous lining.

Microscopic.

The tumour is a teratoma in which both ectodermal and mesodermal elements are represented by cartilage, skin appendages such as sweat glands and hair follicles and neuroglial tissue. The elements are extremely poorly differentiated and there are wide areas of necrosis present. Several teratomas are well known and present all grades of differentiation up to apparent conjoined twins. In this case I was unable to distinguish any attempt at formation of limbs or trunk, etc., and the tissue was mostly soft resembling fœtal brain.

Summary.

A case of obstructed labour due to an unusual teratoma is described.

Acknowledgements.

I wish to thank Dr. S. Hyndeman, Superintendent of the Ayr District Hospital, for permission to publish this case, and to Dr. A. Davison for the pathological report.

LEUKÆMIA IN CHILDHOOD: UNUSUAL MODES OF PRESENTATION.

By IAN C. LEWIS, M.D., M.R.C.P., D.C.H.,

Senior Assistant, Department of Child Health, Princess Margaret Hospital for Children, Perth, Western Australia.

CHILDREN'S HOSPITALS all over the world are admitting more children with leukæmia; but part at least of this increase is due to a better screening of patients, and because of the longer survival time and the greater complexity of therapy, more children with this disease are sent for specialist management.

The clinical picture of leukæmia in children differs from that in adults. The disease is usually acute, and symptoms produced by interference with metabolism, disturbances of the hæmatopoietic system and infiltration of tissues develop very rapidly. Children suffering from leukæmia usually present with anæmia, bruising or bleeding, but in the occasional patient features of a blood dyscrasia are not so obvious, and such cases may cause difficulties in diagnosis. This paper records some of the unusual forms of presentation of this disease at the Princess Margaret Hospital for Children, Perth, in recent years.

Case I.

The patient was a male, born prematurely on June 15, 1958, who weighed approximately 2 lb. at birth. At the age of one month his blood picture was normal. He made good progress until he became ill at three months. He was pale and œdematous, and he had an enlarged liver and spleen when admitted to hospital on October 6, 1958. A blood examination gave the following findings: hæmoglobin value, 3·3 grammes per 100 ml.; nucleated erythrocytes, 12,500 per cubic millimetre; total leucocytes, 32,500 per cubic millimetre (lymphocytes 89%, neutrophils 4%, eosinophils 2%, basophils 2%, monocytes 2%, myelocytes 3%). The bone marrow was hyperplastic, giving the appearance of lymphoblastic leukæmia with erythroid hyperplasia and thrombocytopenia. The platelets numbered 20,000 per cubic millimetre. The urine did not contain excess urobilinogen. The cerebro-spinal fluid contained 77 leucocytes per cubic millimetre, mainly lymphocytes.

The child died four days after his admission to hospital, and autopsy confirmed the diagnosis of leukæmia.

Comment.

This infant presented with pallor at an age when anæmia of prematurity could be expected, and when the other features of malaise, œdema, hepatomegaly and splenomegaly might indicate a severe infection.

Case II.

The patient, a male, born on May 2, 1950, first attended hospital on February 25, 1957. He had developed a painless swelling above his left eye during the previous seven weeks. He appeared to be well otherwise.

Examination of the child revealed that he had a proptosed left eye, and a firm, smooth mass, apparently attached to underlying bone, was palpated in the supra-orbital tissues. There was no lymphadenopathy or splenomegaly. A biopsy was performed, but pathologists' opinions differed. One pathologist suggested a hæmangiopericytoma and another chloroma. The eye was enucleated and the cavity irradiated. Peripheral blood films examined at this time were found to be quite normal; but in November, 1957 (nine months after the patient's original admission to hospital), the peripheral blood film contained 42% of atypical mononuclear cells, which in a peroxidase-stained preparation proved to be primitive granulocytes. Bone-marrow aspiration led to a diagnosis of myeloid leukæmia. A blood examination on November 5, 1957, gave the following findings: hæmoglobin value, 10·2 grammes per 100 ml.; total leucocytes, 7800 per cubic millimetre (lymphocytes, 34%, neutrophils 16%, monocytes 4%, eosinophils 1%, myelocytes 3%, primitive granulocytes 42%). The bone marrow appeared slightly hyperplastic with a predominance of granulocytes, and the conclusion was that the appearance conformed with that of aleukæmic myeloid leukæmia.

The boy's condition deteroriated steadily despite blood transfusions, cortisone and 6-mercaptopurine, and he died on October 2, 1958. No autopsy was performed, but the later stages of the disease left no doubt that the diagnosis reached in November was the correct one.

Comment.

This patient suffered from a chloroma, but the blood picture at the time when his parents sought advice did not reveal the leukæmic nature of the tumour. A chloroma is thought to bear a similar position in myeloid leukæmia to that of lymphosarcoma in lymphatic leukæmia.

Case III.

A male patient, born on October 24, 1956, weighing 4 lb. 1 oz., was admitted to hospital on October 26, 1956. He had purpuric spots on his face and abdomen at birth, and shortly afterwards he became jaundiced. There was no evidence of blood incompatibility, and no one in the family had had infective hepatitis.

On examination in hospital, the baby was found to be slightly jaundiced. His abdomen was distended, his liver edge was palpable 1 to 2 cm. below the right costal margin and his spleen was similarly enlarged. There was a purpuric rash on the head and chest, and some œdema of the legs was present with a moderate-sized hydrocele. A blood examination on the day of his admission to hospital gave the following findings: hæmoglobin value, 24·5 grammes per 100 ml.; blood group, A, Rh-positive; Coombs' test, negative response; serum bilirubin content, 16·0 mg. per 100 ml. The urine contained bile. A further blood examination on November 26, gave the following results: hæmoglobin value, 13·5 grammes per 100 ml.; total leucocytes, 21,000 per cubic millimetre (neutrophils 18%, eosinophils 6%, lymphocytes 70%, monocytes 4%, myelocytes 2%).

A provisional diagnosis of fœtal hepatitis was made. The abdomen became more distended. Dilated veins developed in the abdominal wall, and the hard liver margin became palpable 3 cm. below the right costal margin. The spleen remained palpable. The child subsequently failed to thrive, and ultimately his condition deteriorated slowly. He was discharged from hospital on November 18, 1956, but required readmission on January

13, 1957, because of inanition. His jaundice had faded, but there was still considerable abdominal distension with persistent hepatomegaly and splenomegaly. He had numerous staphylococcal skin lesions. A blood examination gave the following results: hæmoglobin value, 12·0 grammes per 100 ml.; total leucocytes, 40,500 per cubic millimetre (neutrophils 30%, lymphocytes 48%, monocytes 7%, metamyelocytes 9%, myelocytes 6%); nucleated erythrocytes numbered 405 per cubic millimetre. Plasma electrophoresis showed that the albumin-globulin ratio was approximately 1:2, with a slight rise in alpha and in gamma globulin. The serum bilirubin content was 0·8 mg. per 100 ml.

The child died on March 11, 1957, and autopsy revealed chronic myeloid leukæmia of the juvenile type.

Comment.

The diagnosis might have been made earlier in this case, but infective hepatitis appeared to offer an adequate explanation for the findings. It was considered that the leucocytosis was due to skin sepsis, the early forms of cells being found not uncommonly during severe infections in young infants. In retrospect, the clinical picture and other features were typical of congenital chronic myeloid leukæmia.

Case IV.

The patient, a female, born on March 20, 1958, was pale from birth, and when her elder brother, aged five years, was diagnosed as having acute lymphoblastic leukæmia, she was taken to the family doctor. She had had one small epistaxis two weeks prior to this. The doctor, to settle the parents' anxiety, arranged for a "blood picture to be performed", and he was considerably surprised to receive the following report: hæmoglobin value, 7·0 grammes per 100 ml.; total leucocytes, 700,000 per cubic millimetre, with a film diagnostic of acute lymphoblastic leukæmia.

The child was admitted to hospital on April 18, 1959, and a blood examination gave the following findings: hæmoglobin value, 6·9 grammes per 100 ml.; total leucocytes, 800,000 per cubic millimetre (neutrophils 3%, eosinophils 2%, lymphocytes 75%, lymphoblasts 20%); platelets, 48,600 per cubic millimetre. The bone marrow showed the typical picture of acute lymphoblastic leukæmia.

The patient was given 6–mercaptopurine after a blood transfusion, and later perdnisolone and amethopterin. She died on July 11, 1959, and autopsy confirmed the diagnosis.

Comment.

This case is unusual, in that it is the second case of acute lymphoblastic leukæmia in the one family.

Case V.

The patient was born on October 12, 1945. He was a mentally dull boy, who was first admitted to a surgical ward on August 14, 1956, because of colicky abdominal pain and anorexia of two days' duration. His total leucocyte count was 21,000 per cubic millimetre on two occasions, with a predominance of neutrophils, but no report of primitive or early cell types was made. No cause for the leucocytosis was found, and he was discharged from hospital 24 hours after his admission, to be reviewed as an out-patient.

The family background was far from satisfactory, and the parents had been in trouble with the school authorities over their children's absenteeism. The medical out-patient appointment was not kept; but the boy was examined by an oto-rhino-laryngologist because of earache, and he also attended the casualty department. In October, 1957, he was referred by the casualty resident to the orthopædic clinic. He had been feverish, with pains in his left knee and left hip, for two days. He had tenderness and swelling of his hip with considerable limitation of movement. He was admitted to the orthopædic ward with the diagnosis of either non-specific or septic arthritis. Marked splenomegaly associated with generalized lymphadenopathy was discovered, and after a peripheral blood examination he was transferred to a medical ward. The findings were as follows: hæmoglobin 7·8 grammes per 100 ml.; total leucocytes, 240,000 per cubic millimetre (promyelocytes 9%, myelocytes 14%, metamyelocytes 16%, segmented polymorph neutrophils 43%, eosinophils 4%, lymphocytes 7%, basophils 5%, monocytes 2%). Examination of the bone marrow confirmed the diagnosis of chronic myeloid leukæmia.

"Myleran" therapy was commenced, and he remained well, although he was readmitted to hospital in December, 1958, suffering from an appendiceal abscess. He made a good recovery after operation, and at present he is leading a normal life.

Comment.

It is difficult to decide on the cause of this patient's first attack of abdominal pain. In view of his subsequent history, it was probably an attack of acute appendicitis; but at this time he undoubtedly was suffering from chronic myeloid leukæmia as well.

Case VI.

The patient, a male, born on October 14, 1950, was brought up in a country town. He was first admitted to hospital on March 2, 1959, at the age of eight years and five months, with the diagnosis of suspected cerebral tumour. He had struck his head in the local swimming pool two weeks before, but he had not lost consciousness. Four days later he developed double vision, and his parents noted that he had external strabismus. About one week before his admission to hospital he had complained of headache and a stiff neck, and he became anorexic.

On admission to hospital, he was a healthy-looking, well-nourished boy, with no splenomegaly, hepatomegaly, lymphadenopathy or pallor. He had external strabismus involving his left eye caused by paresis of the left medial rectus muscle, and he appeared to have slight proptosis of this eye with fullness of his upper eyelid. There were no other abnormal findings in the nervous system. A radiograph of the skull showed no infiltration of orbital bones, but the chest film revealed a mediastinal mass. A blood examination gave the following results: hæmoglobin value, 12·0 grammes per 100 ml.; total leucocytes, 33,000 per cubic millimetre (neutrophils 40%, eosinophils 1%, lymphocytes 56%, monocytes 2%, myelocytes 1%); many of the lymphocytes seen in the film were atypical and immature, and 4% resembled blast cells. Platelets numbered 200,000 per cubic millimetre. The bone marrow showed the features of acute lymphoblastic leukæmia. The patient responded to therapy, which consisted of prednisone and 6–mercaptopurine; but later he required radiotherapy to shrink the mediastinal mass, which had caused a bilateral pleural effusion through lymphatic obstruction. He relapsed and died on July 1, 1959. Autopsy confirmed the diagnosis.

Comment.

This case presented in a most unusual way, and the diagnosis was unsuspected. It represents a transitional phase between lymphosarcoma and acute lymphoblastic leukæmia.

Case VII.

A male patient, born on April 23, 1957, was examined on February 12, 1959, after a fall on a polished veranda four days before. He had not appeared to be upset until the day before coming to hospital, when he became irritable and anorexic and was unable to walk. No abnormality was discovered on clinical examination except enlarged tonsils and marked cervical adenitis. He was examined two days later, when the doctor reported that he was limping. Again, no abnormality was found on clinical examination.

He was examined in the orthopædic department on February 17, and as no cause for the limp could be discovered he was referred to the physician, who diagnosed a blood dyscrasia and arranged for his admission to hospital. A blood examination gave the following results: hæmoglobin value, 11·5 grammes per 100 ml.; total leuco-

cytes, 64,000 per cubic millimetre (neutrophils 16%, lymphocytes 20%, prolymphocytes 54%, monocytes 4%, eosinophils 4%, basophils 2%); an occasional lymphoblast and many smudge cells were seen in the film. The bone marrow appearances were diagnostic of acute leukæmia, probably lymphoblastic.

He has received 6-mercaptopurine and later prednisone and amethopterin, and he is well at the time of writing.

Comment.

This boy presented with limb pain, which is not unusual in leukæmia; but, as often happens in many diseases, including leukæmia, his symptoms were connected with what was probably a trivial traumatic incident. This was magnified in the parents' minds in the light of subsequent events.

Case VIII.

The patient, a female, born on July 4, 1954, was admitted to a country hospital on August 14, 1958, with the story that she had developed a cold, which was followed by pain below her right knee. A few days later her temperature rose to over 101° F., she complained of pain in both knees and became anorexic. She spent three days in the local hospital without any abnormality being discovered, but as she was withdrawn and objected to weight-bearing, the family doctor suspected a psychogenic upset. She had further discomfort in her left arm and shoulder for a day or two prior to her admission to the Princess Margaret Hospital.

She was admitted with the diagnosis of acute rheumatism, but a blood examination gave the following results: hæmoglobin value, 9·6 grammes per 100 ml.; total leucocytes, 5200 per cubic millimetre, lymphocytes 95%, neutrophils 5%. The hæmatologist commented that the picture was that of a secondary anæmia, possibly due to bone-marrow aplasia.

On clinical examination, the child was found to have swollen finger joints, a puffy right knee and a Grade II apical systolic murmur. She was nursed at rest, and soon after her admission to hospital a precordial friction rub was detected. This lasted about ten days. She appeared to improve, and it was not until three months later that the anæmia was investigated further. Examination of the bone marrow showed the typical picture of acute lymphoblastic leukæmia.

She was given 6-mercaptopurine, and her progress to date has been satisfactory. She has no evidence of residual cardiac damage.

Comment.

This child was undoubtedly suffering from leukæmia at the time of her admission to hospital. The precordial friction rub may have been due to a leukæmic plaque; but there may have been an associated acute rheumatism.

Discussion.

Acute leukæmia in childhood is a condition of uncertain ætiology, but it is known to occur more frequently after exposure of the fœtus or of the infant to ionizing radiation. The possibility of combined external and genetic factors producing the condition has been suggested by Pierce (1957). There appears to have been a true rise in the incidence of acute and chronic myeloid leukæmia in adults in recent years (Court Brown and Doll, 1959), and this increase appears to have affected children also. At the Princess Margaret Hospital for Children, Perth, twice as many cases were seen in 1958 as in 1954, although the total number of cases admitted have gone up only by half. The presenting clinical picture is usually fairly constant, with the metabolic effects of the condition combining with hæmatopoietic dysfunction to produce features of loss of weight, fever, pallor and a bleeding tendency. There are, however, unusual modes of presentation, which may not startle the experienced children's physician, but which may be confusing to others.

All the case records selected for this paper were taken from the records of an institution which handles most of the children admitted to hospital in Western Australia. All the children whose histories are reported were admitted during the last three years. They represent a cross-section of the unusual cases, and include a congenital case, a familial case, a case suggestive of acute rheumatism, a "traumatic" history case, a case affecting a premature infant, and a case presenting with orbital signs. Other hospitals could no doubt add to this interesting series. One is left with the conclusion that leukæmia is a disease which must be considered in the differential diagnosis of many and diverse symptom complexes.

References.

PIERCE, M. I. (1957), "Pediatric Hematology", *Pediat. Clin. N. Amer.*, May: 497.

COURT BROWN, W. M., and DOLL, R. (1959), "Adult Leukæmia: Trends in Mortality in Relation to Ætiology", *Brit. med. J.*, 1: 1063.

Reviews.

Parsons' Diseases of the Eye. By Sir Stewart Duke-Elder, G.C.V.O., Ph.D., D.Sc., LL.D., M.D., F.R.C.S., F.R.A.C.S., F.A.C.S.; Thirteenth Edition, 1959. London: J. & A. Churchill Ltd. 8" × 5¼", pp. 621, with illustrations. Price: 50s.

THE thirteenth edition of this book has appeared five years after the twelfth edition. Revision of this edition has again been in the hands of Duke-Elder, and the combination in ophthalmology of two names such as Parsons and Duke-Elder cannot but fail to produce something worthwhile.

Although the editor hopes that the book retains its place as a guide to diseases of the eye for students, general practitioners and junior ophthalmic surgeons, we cannot agree that it is a guide for students and general practitioners. This is a textbook of ophthalmology with a tremendous mine of information, ideal for quick reference and an absolute "must" for candidates for post-graduate examinations. In our opinion this is probably the best single volume textbook of ophthalmolgy in the English language.

While the editing of this volume remains in the hands of Duke-Elder, the place of "Parsons" in ophthalmic literature is assured and the task of future editors unenviable.

Atlas of Technics in Surgery. By John L. Madden, M.D., F.A.C.S., with 62 contributing authors; 1958. New York: Appleton-Century Crofts, Incorporated. 11½" × 8½", pp. 672, with 293 plates. Price not stated.

A WEALTH of surgical information is contained in this book, which is probably the best yet to be published on operative technique. The advice given to young surgeons shows a real appreciation of their problems and therefore makes worthwhile reading. Details of surgical technique are clearly shown by the artists, and each operation is followed by a discussion of the procedure by an acknowledged leader in that field. All in all, there is a wonderful array of 62 contributing authors, who take part in the discussion, and who do not agree with the technique of every procedure decribed by Dr. Madden. This is a refreshing way to present operative surgery, and most interesting and valuable instruction is provided.

Although it is stated that "areas of specialization are not covered", it is not the usual custom to regard cardiovascular surgery as within the realm of the general surgeon. For instance, details are given of operations for the correction of the tetralogy of Fallot, of pulmonary stenosis and of coronary artery thrombosis. At the same time adrenalectomy is not included, and the description of operations for anal fistulæ is limited to the simplest type of anal fistula possible. Closed or "aseptic" end-to-end anastomosis of the bowel is depicted as an alternative to the open methods, even though the latter are practically the only ones now used.

In a book of this type there are sure to be many controversial points, but in most instances here attention is drawn in the discussion by the contributory authors to the more frequently used techniques. Such points include the insertion of drainage tubes through the main wound rather than through a stab wound, the failure to defunction the loop of jejunum used in an anastomosis with the biliary

tree, the failure to drain the wound after closure of a colostomy or the peritoneal cavity after a splenectomy, the mixing of catgut and silk sutures in the one wound, the use of a simple primary closure after excision of a pilonidal sinus, etc.

As is usual in most medical books from the United States, phrases such as "the skeletonization of the greater curvature of the stomach" appear, and although a large number of references are given, few of them are foreign.

This book is well set out, and the proof reading has been excellent, the only error found being "millimeters" instead of "milliliters" on page 613. On the other hand, its size makes it quite unsuitable for reading in bed, and even at a desk, it would be more convenient to have it divided into two volumes. Dr. Madden and the artists, Alfred Feinberg and Robert Wabnitz, are to be congratulated on their production of this book, which will surely have a wide appeal as a reference book for surgeons who may be suddenly called upon to perform operations with which they are unfamiliar.

Psychoanalysis of Today. By S. Nacht, American adaptation prepared by Ruth Emma Roman; 1959. London and New York: Grune & Stratton, Incorporated. 8½" × 5", pp. 240. Price: $5.75.

THIS is an American adaptation based on *"La psychanalyse d'aujourd'hui"* by S. Nacht, being a condensation of eight of its 16 chapters.

The section headed "Indications and Contraindications for Psychoanalysis of Adults" is by S. Nacht and S. Lebovici; "Clinical Analysis" is by M. Bouvet; "Psychoanalytic Therapy" by S. Nacht; "Psychoanalysis of Children" by S. Lebovici, R. Diatkine, J. A. Favreau and P. Luquet-Parat; "Psychoanalysis and Medicine" by R. Held; "Psychoanalysis and Neurobiology" by De Ajuriaguerra, R. Diatkine and J. Garcia Badaracco; "Psychoanalytic Therapy of the Psychoses" by R. C. Racamier; and "Psychoanalysis and Sociology" by S. Nacht, R. Diatkine and P. C. Racamier.

We are particularly interested in Bouvet's description of psychoanalytical therapy in the light of object-relationships.

The Process of Aging in the Nervous System. By Thirty-Two Contributors; edited by James E. Birren, Ph.D., Henry A. Imus, Ph.D., and William F. Windle, Ph.D., Sc.D.; with a foreword by Pearce Bailey, Ph.D., M.D.; 1959. Oxford: Blackwell Scientific Publications. 9" × 6", pp. 238, with 42 illustrations. Price: 52s. 6d. (English).

THIS book is one of a series of "Symposia in Neuroanatomical Sciences". Inasmuch as it records the proceedings of a conference (held at Bethesda, Maryland, early in 1957), it contains papers contributed by those actively working in the subject. The symposium purveys new information, but its range is necessarily limited. This limitation should be accepted in good part by the reader as implicit in such records of conferences, for much material of great interest is collected together into small compass.

The book deals with the biological changes which occur in the nervous system with the passage of time; this is much more fundamental than a study of the disease of old age. Aging is a process which begins as maturity commences to wane, while the seeds are sown at conception.

Cowdry describes different types of cell lives. In the vegetative intermitotics, each cell begins with the mitosis which gives it birth and ends with mitosis into two daughter cells. There is complete continuity of the stream of life in some sexual cells, while others die off. Spontaneous generation of cells has never been demonstrated. These cells give rise to differentiating intermitotics with increasing specialization. At the top of this ladder are the fully specialized postmitotics. Some of these (the reverting postmitotics) may, in response to a particular need, revert to an intermitotic habit of life; others (the fixed postmitotics) serve their purpose and die without issue. The nerve cells are the longest living of these—indeed, most last a life-time, although their contents are replaced in unknown ways.

Wilcox has studied the neurons in protected guinea-pigs at different ages, and finds that, when careful techniques are used, the accumulation of lipofuscin is "the only one alteration that occurs constantly enough to be correlated with aging". This finding must appear remarkable to those whose concepts are founded upon the study of human material, which has necessarily perished of some disease, and in which post-mortem changes must necessarily occur.

Dempsey provides some wonderful pictures of the fine structure of the nervous system, as revealed by the electron microscope. He shows that in new-born rats neurons are often in direct contact with the endothelial basement membrane of a capillary. Later glial processes intervene. Similarly the investment of neurons and axons by glial processes takes place after birth.

Windle states that "aging in the nervous system is part of normal growth. Embryonic development is at one end, maturation follows and aging occupies the other end of the spectrum of a continuing process in which the only sharply defined boundary is the beginning". During embryonic development, nerve cells have a strong potential for growth by extruding processes. This is lost at some stage in higher animals, except in some neurons which give rise to fibres of peripheral nerves. The spinal cord of tadpoles regenerates, that of adult frogs does not. However, it is possible by chemical administration to create a situation in mature animals which in essence is like that existing at a much earlier stage of life.

In the next section, chemical and metabolic factors are discussed, and Sokoloff discusses the question of circulation in relation to aging. The brain is urgently dependent upon an uninterrupted blood supply, because oxygen and glucose, necessary for its normal functioning, are stored in small quantities, insufficient to maintain cerebral metabolism for more than a few seconds. Functional and then permanent changes rapidly ensue from brief interruption of the circulation, anoxæmia and hypoglycæmia. The effects of mild, prolonged impairment are not well known. However, it has been suggested that pathological change in the cerebral vascular system is the pacemaker of the aging process in the brain. Study of patients showed that the human cerebral blood flow progressively falls throughout the life span, while there is a progressive rise in cerebro-vascular resistance and cerebral oxygen consumption. However, in a group of healthy intellectual and active individuals, no difference was noted between young and aged subjects.

Birren reviewed the changes in sensation, perception and capacity for learning in age. There is a slowing of responses, an increased latency for all voluntary responses which increases with complexity of the task. It is due to change in the excitability of the central nervous system and not to any peripheral mechanism.

Stevenson briefly reviews the clinical and pathological pictures of some diseases of old age, including some which he believes to be best explained by abiotrophy. Abner Wolf discusses the difficulty of explaining the process of senescence, and reviews the many pathological changes which have been described in human material, thereby bringing the whole problem into its complex clinical perspective.

The text, written by various authors, is eminently readable, having a common denominator of simplicity. The material is fascinating. It shows at the same time the progress which is being made by medical science, and the present inability to answer any problem. It is doubtful whether any medical practitioner would fail to be interested in the original contributions to this book of 189 text pages, many of which are devoted to "round-table discussions".

Books Received.

[The mention of a book in this column does not imply that no review will appear in a subsequent issue.]

"Vascular Studies in Pseudoxanthoma Elasticum and Angioid Streaks", by U. Carlborg, B. Ejrup, E. Gronblad and F. Lund; Supplement 350; 1959. Stockholm: Acta Medica Scandinavia. 9½" × 7", pp. 86, with 25 illustrations. By subscription.

"Recent Advances in Clinical Pathology: Series III", by Various Authors. General Editor: S. C. Dyke, D.M. (Oxon.), F.R.C.P. (Lond.). Section Editors: "Bacteriology", Mary Barber, M.D. (Lond.), F.R.C.P.; "Chemical Pathology", E. N. Allott, D.M. (Oxon.), F.R.C.P. (Lond.), F.R.I.C.; "Hæmatology", Rosemary Biggs, M.D., B.Sc. (Lond.), Ph.D. (Toronto); "Histology", A. H. T. Robb-Smith, M.D. (Lond.), F.R.C.P. (Lond.). 1960. London: J. and A. Churchill Ltd. 8" × 5½", pp. 440, with 151 illustrations, including one plate in colour. Price: 50s. net (English).

"Cardiac Auscultation: Including Audio-Visual Principles", by J. Scott Butterworth, M.D., Maurice R. Chassin, M.D., Robert McGrath, M.D., and Edmund H. Reppert, M.D.; Second Edition; 1960. New York and London: Grune and Stratton, Inc. 10" × 7", pp. 104, with 68 illustrations. Price $6.25.

The Medical Journal of Australia

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TRACHOMA IN WESTERN AUSTRALIA.

By contrast with the Moroccan experience to which we recently referred,[1] a distinctly different pattern emerges from the work on the management of trachoma that has been done in Western Australia in the past few years. It will be remembered that in the early 1950's Professor Ida Mann, with various other people and notably Dr. Janos Loschdorfer, Dr. Mercy Sadka and Dr. Percy White, surveyed the whole of Western Australia and Papua and some of the islands in the South Pacific. The survey began with an offer from the Royal Flying Doctor Service of the use of an aeroplane to ascertain the causes of the high incidence of blindness in the Kimberleys. That preliminary survey showed that trachoma was the biggest problem, and the Public Health Department of Western Australia therefore came strongly into the picture. In 1955, Professor Mann was made a member of the expert committee of the World Health Organization on trachoma, and in 1956 she attended the meeting of the Committee in Geneva. Not unnaturally the Department of Public Health in Western Australia has consequently worked to the five-point programme recommended by WHO to which we have referred earlier. This programme has nearly been completed in Western Australia. All the surveys showed a high incidence of trachoma, especially in the aboriginal population. The sources of infection were found to be by contact under unhygienic conditions of life among the native and white population, in the highly infected areas, but it was also found that a certain amount of active trachoma was still entering the country through white migrants, especially those from Southern Italy. The pilot treatment project bore out the findings of other workers all over the world (further verified, as we have seen, by the studies in Morocco) that the best treatment of trachoma is the oral administration of the soluble sulphonamide group of drugs combined with the local use of chlortetracycline. It was also noted, however, that treatment with orally administered sulphonamide alone was almost equally effective; so a pattern of treatment emerged quite different from that used in Morocco. It was realized that the local application of ointment to the eyes of large numbers of aboriginal children twice or three times a day was quite impossible for a variety of sound reasons, and it was decided to base the mass treatment campaign on the use of orally administered sulphonamides alone. Professor Mann, to whom we are indebted for most of the information referred to here on the work in Western Australia, states that there is no difference in the effectiveness of the various sulphonamides so far as they have been able to see, but the long-acting less toxic ones are obviously the best, as it is difficult to ensure the administration of more than one dose a day. In these terms sulphamethoxypyridazine ("Lederkyn") has served particularly well.

The mass campaign in Western Australia is organized with the voluntary help of the teaching profession, without whose cooperation it is considered that the campaign would be impossible. The Department of Public Health has two travelling nurses who have been trained in trachoma work and who visit schools and cattle stations, farms, etc., finding cases of trachoma and giving instruction in treatment. They show films and lecture on the need for eradication. This is necessary because the early stages of trachoma, when it is a pure virus infection and easily cured, do not produce symptoms, and no one realizes that the child is infectious and in need of help. The school medical officers also have all had a course of instruction in the diagnosis of trachoma, and it is now a routine throughout the State that the school doctor everts the lids of every child seen at inspection. It was in this way that the introduction of trachoma from Italy was discovered, since at first it was thought to involve only the aborigines. In addition to the instruction of the school medical officers, each new district medical officer is instructed, and regular lectures on trachoma and other important eye diseases in children are given to infant health nurses, probationers and school nurses. This campaign of education is a necessary part of any treatment campaign because of the insidious nature of the disease in its early curable stage.

At the beginning of the mass campaign it was decided to institute blanket treatment of all native children once a year in all schools. It is accepted as impossible to treat the native pre-school child in the camps, and new entrants are constantly bringing the disease to the schools. After four years of the campaign the incidence of the active stage of the disease in children under the age of ten years has been decreased to 60%. In many schools, notably in the worst areas of the north, the figures are even better; for example, in Wyndham it is at present only 42%. It is therefore the intention to treat only the infective cases and not to give annual blanket treatment to the whole school. It is not as yet certain that this will work, because of the scarcity of trained staff to pick out the cases, but results will be awaited with interest.

It may be noted also that the laboratory side of the work in Western Australia has proved very fruitful. As a result of the work of Dr. Dorothy Perret, following the technique developed by T'ang and others in Taiping, the virus of Australian trachoma has been successfully cultivated in eggs, and it has been shown that it is similar to that found by workers in China, Gambia, South Africa and elsewhere. That it is the cause of trachoma has been proved by the experimental inoculation of a human volunteer, who developed clinical trachoma, and from whom the virus was recovered and again grown in eggs. Several strains of trachoma virus are at present being passaged in the laboratory. Work on the serology of the disease has been carried out, and studies are beginning on the action of the sulphonamides on the recoverability of the virus. It is

[1] MED. J. AUST., 1960, 1: 983 (June 18).

not yet known whether all the strains are similar or whether different forms of the disease exist.

Much of the work that has been done in Western Australia is as yet unpublished, and we look forward to seeing the full reports. Meantime, it is gratifying to see the progress that has been made in the seven years since Professor Mann began the first of her ophthalmic surveys for the Department of Public Health in Western Australia and disclosed the extent of the trachoma problem.

Current Comment.

ANTIBIOTICS IN FOOD.

THE contamination of food with chemicals of many kinds, whether accidentally or deliberately, has become a serious problem for public health authorities, especially in the technologically advanced countries. Substances introduced deliberately, such as preservatives, colouring agents, emulsifiers, etc., are controlled by regulation, but many other substances, such as sprays used on crops, materials used in the manufacture of containers, hormones fed to stock, etc., may persist in the marketed product incidentally. Antibiotics come into both categories, more especially the latter. A report by Henry Welch[1] of the U.S. Department of Health summarizes the problem of antibiotics in food as it appears in that country. He points out that the use of antibiotics has extended widely beyond the field of treatment of human diseases, and that they are now also used in veterinary medicine, in animal feeds for growth stimulation, as crop sprays (plants also suffer from bacterial diseases) and in the preservation of food. It has been well known for some time that the addition of various antibiotic substances in the diet of pigs and poultry increases their rate of growth, apparently through some effect on the intestinal flora, since they have no growth-stimulating effect when fed to animals reared in a germ-free environment. However, Welch states that when they are used in recommended amounts there are no detectable drug residues in the meat, eggs or milk of treated animals. In the United States approval has been granted for the use of chlortetracycline and oxytetracycline for the preservation of raw poultry and certain types of fish and shellfish, in strictly defined amounts, but it is stated that no antibiotic residues are detectable in the food after cooking. Considerable research has also been carried out into the usefulness of antibiotics in the preservation of other meats, but approval of their use in these cases had not yet been granted at the time Welch's report was written.

It appears then that the only case in which contamination of food by antibiotic substances has been shown to be harmful is still that of penicillin in milk. Mastitis is one of the commonest veterinary troubles of dairy farmers, it is most often caused by infection with *Streptococcus agalactiæ*, an organism which is highly sensitive to penicillin, and the standard method of treatment is by the infusion of penicillin into the infected quarter. Welch states that it has been shown that if milk from the infected quarter is discarded for 72 hours after cessation of treatment, nearly all the penicillin will by then have been excreted. In America the FDA (Food and Drugs Administration) have taken energetic steps to see that this is done, but this is obviously a difficult regulation to enforce. There is also a regulation limiting the penicillin content of preparations for the treatment of mastitis in cattle to 100,000 units per dose. Surveys in both Britain and America have shown traces of penicillin in a proportion of samples from bulk milk supplies tested. In the latest American survey referred to by Welch, 3·7% of samples were found to contain penicillin in amounts varying from 0·006 to 1·22 units per millilitre; this was a substantial improvement on the results of previous surveys, showing that the efforts of the FDA had produced some effect. Earlier surveys in Britain had shown the presence of over 0·01 unit of penicillin per millilitre in a proportion of samples tested which varied widely from one part of the country to another, but which in one district reached 47%.

Unlike most antibiotics, penicillin is particularly prone to cause sensitization, and as a result of its widespread medical use there are bound to be a considerable number of penicillin-sensitive individuals in the community. The possibility that susceptible individuals would become sensitized to penicillin by drinking penicillin-contaminated milk also cannot be excluded. It is therefore not surprising that cases have from time to time been reported in which sensitivity reactions have been traced to the consumption of contaminated milk. Two such cases have been reported by H. R. Vickers and his colleagues,[2] from the Radcliffe Infirmary, Oxford. One of these concerned a woman who had apparently been sensitized to penicillin by treatment with penicillin of an infected dermatosis; she subsequently experienced attacks of dermatitis apparently associated with the drinking of milk from a bulk supply which probably contained penicillin, but was free from attacks when drinking milk from her own cow.

So far ill effects from contamination of food with antibiotics other than penicillin do not appear to have been reported; however, this is a question which health authorities will no doubt keep under review. In the latest American survey a few samples of milk appeared to be contaminated with other antibiotics, but their specific identification in minute quantities was not possible. We are not aware that any surveys for the presence of penicillin in milk have been made in Australia, but the probability that bulk supplies may from time to time be so contaminated obviously exists, and may be considered as a possible cause of obscure allergic reactions in sensitized individuals.

A NEW TECHNIQUE FOR THE FORMATION OF A SUBSTITUTE BLADDER.

UROLOGISTS have displayed considerable ingenuity in devising operations for the reconstruction or total replacement of the bladder, for patients in whom this organ is congenitally defective, or is deformed by chronic disease, or has been removed on account of malignant disease. The use of an ileal loop as a bladder substitute has enjoyed a considerable vogue in recent years, and appears to have important advantages over uretero-sigmoidostomy, formerly the mainstay of urinary diversion procedures. The formation of a recto-sigmoid bladder has been favoured by some surgeons and avoids some of the drawbacks of other operations, but has the disadvantage that it condemns the patient to a permanent colostomy. These appear to be the main procedures employed, though there are many variants. The choice of operation is determined by the circumstances of the case and by the predilection and experience of the surgeon concerned. J. M. G. Vernet[1] of Barcelona has recently put forward what is stated to be an entirely new operative technique for the construction of a functioning artificial bladder, by which the patient is enabled to pass both urine and fæces by the natural orifices after the removal of a diseased bladder. Vernet states that he had been much impressed by the results obtained with the use of a segment of the sigmoid colon as a partial substitute for the bladder (colo-cystoplasty), and so decided to perform total substitution of the cancerous bladder with an isolated segment of the sigmoid colon. The idea was to anastomose this new organ to the urethra, allowing the patient to micturate naturally and so be spared the severe complications frequently observed after uretero-sigmoidostomy without diversion of the fæcal stream. The

[1] *J. Amer. med. Ass.*, 1959, 170: 2093 (August 22).

[2] *Lancet*, 1958, 1: 357 (February 15).

[1] *J. Urol.* (*Baltimore*), 1960, 83: 39 (January).

experience of Vernet and his colleagues now amounts to 15 cases in which total cystectomy was performed for malignant conditions of the bladder and a substitute colonic bladder constructed.

The procedure, as described by Vernet, is as follows: lymphadenectomy of the iliac chains is first carried out, and then total cysto-prostato-vesiculectomy is done by an extraperitoneal technique. The ureters are cut across elliptically as they enter the bladder. When the neoplasm is well away from the internal meatus the apical portion of the prostate is salvaged in order to preserve integrity of the external sphincter. The length of sigmoid colon selected must be about 30 cm. This must be well mobilized, by lengthening the sigmoid mesocolon, so as to bring it down easily to the region of the membranous urethra. Once the sigmoid segment is isolated, its ends are closed, and a highly concentrated, non-irritating, bacteriostatic solution (chloramphenicol) is injected into it to obtain bacteriological cleansing without excessive mucus formation. The peritoneal cavity is then closed, with extraperitonealization of the colonic segment. For the ureterosigmoid anastomosis a Nesbit technique may be used, but if the vesical neoplasm is well away from the orifice, the separated ureter is allowed to retain its intramural portion; this will preserve the integrity of complete ureteric peristalsis. Anastomosis of the distal end of the colonic segment to the urethra may be difficult because of the disparity in size of the lumen. Post-operatively, the ureters are drained by ureteric catheters brought out through the urethra, and a small urethral catheter is also left in. In spite of a very long operation (average three and a half hours) and of the fact that most patients were elderly and in poor condition, there were only three operative deaths in the 15 cases reported by Vernet.

DEFECTIVE MOLECULES AS A CAUSE OF DISEASE.

THE inaugural lecture of the Professor of Chemical Pathology in the University of Leeds, G. H. Lathe, has been published in a brochure with the intriguing title "Defective Molecules as a Cause of Disease".[1] This sets out what is known of the effects of genes on the chemical constitution of bodily molecules, including proteins such as hæmoglobin and enzymes, the effects of altered genes on the constitution of these molecules and the relation of these to diseases. Lathe draws attention first to Garrod's work on so-called "errors of metabolism". Then follows a discussion on the different kinds of hæmoglobin found in man and the genetic relationships of these and their relation to disease. Thus in sickle-cell anæmia there is a different hæmoglobin from that found in normal persons. This is inherited in a Mendelian fashion. More than 20 other forms of hæmoglobin have been found in man, but few of these are known to be associated with disease. The sickle-cell hæmoglobin (S) has in its molecule a chain of amino acid which differs from that in normal hæmoglobin (A) in that a glutamic acid residue replaces a valine. That such a small change can have a marked effect is seen with oxytocin and vasopressin. In a part of the molecule, a leucin in oxytocin is replaced by a lysin in vasopressin and an isoleucin by phenylalanine. These cause the great differences in the properties of the two. Few other human proteins have been studied yet. There is much discussion on the probable parts played by ribonucleic acid and desoxyribonucleic acid in mutations. It is certain that other types of proteins in the cells show similar changes, particularly enzyme proteins. Lathe lists 11 pathological conditions in man in which there is a specific enzyme deficiency, such as methæmoglobinæmia, von Gierke's disease, galactosæmia and phenylketonuria. In these cases it is probable that a protein is formed which is not quite like the normal enzyme protein and is not functional.

A vast amount of information is now available indicating that inherited traits play a part in the ætiology of disease, producing various morphological abnormalities. Lathe suggests that biochemical abnormalities are very much more common than is imagined, and this presentation is, in effect, a plea for a widespread and detailed study on the matter. It is a particularly interesting essay and, while it has no immediate relation to practical medicine, it gives one plenty to think about in relation to the future of medicine.

[1] "Defective Molecules as a Cause of Disease: An Inaugural Lecture", by G. H. Lathe, M.Sc., M.D., C.M., Ph.D.; 1960. Leeds: Leeds University Press. 8¼" × 5½", pp. 30. Price: 2s. 6d. (English).

THE FUNCTIONAL ORGANIZATION OF THE DIENCEPHALON.

A NEW ERA in our understanding of the functional anatomy of the brain began in 1871, with the discovery by Fritsch and Hitzig of the electrical excitability of the cerebral cortex. However, it was not till 1925 that the first systematic attempt was made to study the effect of stimulating definite brain structures and observing the behaviour of the unanæsthetized conscious animal. In that year Professor W. R. Hess began his work on the diencephalon. This work was noteworthy, not only because it was directed at the most inaccessible part of the brain, but also because of its emphasis on the interrelationship between the functional and morphological aspects of the central nervous system. There followed a long series of publications from Hess' laboratory, gradually unfolding details of the functional organization of the diencephalon. The papers appeared in various continental journals, and in 1949, the year in which he was awarded the Nobel Prize, Professor Hess summarized the major research findings in his book *"Das Zwischenhirn"*. These studies from the Physiological Institute at Zürich have not been as well known as they should have been in the English-speaking world. We therefore owe a debt to Dr. Hughes and his collaborators at the National Institutes of Health in the United States for making available an English translation of *"Das Zwischenhirn"*.[1] The original translation was undertaken by experts from the Translating Unit of the National Institutes of Health, and in subsequently editing this translation Dr. Hughes, who is well known as a neurophysiologist, has had the advice and assistance of many able collaborators. The translation can therefore be taken as authoritative, and the editor has also succeeded in his aim to produce a translation in "acceptable scientific English". This small book is not only one of the classics of neurology, but it is also a classic in compression, reducing to a little over 100 pages the results of more than a quarter of a century of patient and painstaking experimental endeavour. It should be read by anyone interested in the nervous system, both physiologist and clinician alike.

[1] "The Functional Organization of the Diencephalon", by W. R. Hess; edited by John R. Hughes, M.A., Ph.D.; 1957. New York, London: Grune and Stratton. 8½" × 5", pp. 192, with many illustrations. Price: $7.00.

HELP FOR MEDICAL COLLEAGUES IN CHILE.

THE widespread damage and loss caused by earthquakes in the national disaster areas of Chile have been fully described in the newspapers, and it would appear that the distress in that country has been and still is extreme. The World Medical Association has sent $1000 to the Medical Association in Chile, so that it may provide humanitarian assistance to those in need, and has urged member associations of W.M.A. to help. It is gratifying to learn that the Executive Officers of the Federal Council of the B.M.A. in Australia, at a meeting in Sydney on June 2, 1960, decided to send a donation of £100 to the appropriate medical body, the Colegio Medico de Chile, for the purpose of affording relief and assistance to colleagues who may have suffered loss during the disaster. This action, we are confident, will have the whole-hearted and unanimous approval of members of the British Medical Association throughout Australia.

Abstracts from Medical Literature.

RADIOLOGY.

Infrapulmonary Pleural Effusion.

J. A. PETERSEN (*Radiology*, January, 1960) states that pleural effusion of the infrapulmonary type, though common, may not be recognized by conventional radiographic studies of the chest until the fluid has increased to considerable proportions. In its subpulmonary, basal, or diaphragmatic position the fluid forms as a layer in the pleural space between the concavity of the undersurface of the lung and the convexity of the dome of the diaphragm. In this position it is often overlooked because it masquerades as an elevated diaphragmatic leaf. The films are frequently interpreted as indicating elevation of the diaphragm with a small amount of fluid in the costo-phrenic gutter, whereas in fact the diaphragm lies at a normal or lower than normal level, and the quantity of fluid present is large. Typically, an infrapulmonary effusion presents in the postero-anterior upright projection as an apparently elevated leaf of the diaphragm, with a contour similar to a diaphragmatic shadow and just as sharply outlined. There is a gradual inclination upward and laterally from the cardiac shadow, with a rather abrupt drop near the costal margin to form a sharp gutter similar to a normal costophrenic angle. With large quantities of fluid (more than a litre) the central upper contour may maintain its pseudodiaphragmatic shape, but effusion will become more evident in the lateral gutter, along the mediastinum, and in the fissures. On the left side, in the absence of pleural fluid, the top of the gastric air bubble will lie at a distance of one centimetre or less from the diaphragm. Increase of the space between lung and gastric fundus should arouse suspicion of infrapulmonary fluid and may indicate the thickness of the fluid layer beneath the lung. In the lateral upright projection infrapulmonary effusion may also show an upper contour like that of the diaphragm. More often, however, only the middle portion of the upper margin of the fluid is rounded and the posterior gutter is filled. Experience has shown that, without exception, fluid can be demonstrated posteriorly as a thin wedge of increased density tapering upward, separating the visceral and parietal pleura. For reasons not well understood, an infrapulmonary effusion appears to reduce the volume of the lower lobe of a normal lung, while the remaining lobe or lobes seem to be unchanged in size and position. This produces a rather characteristic configuration on the lateral film where the convex upper margin of the fluid meets the major fissure, forming a straight component of the pseudodiaphragmatic shadow anteriorly. In many cases widening of the linear shadow of the major fissure above the bulk of the effusion is shown. In lateral decubitus studies made with a horizontal beam and with the patient lying on the affected side, the amount of hidden effusion will be graphically portrayed, its mobility will be indicated, and the true position of the diaphragm will be shown. Supine studies also show the true level of the diaphragm and mobility of the fluid and, when compared with the normal side, a uniform haziness overshadowing the affected lung. With only a small effusion, the difference in density may be difficult to detect; with larger quantities this is readily apparent and, in addition, a thin shell of fluid about the lateral margins and apex of the lung is visible.

Rotation of the Kidney Around its Transverse Axis.

B. GONDOS (*Radiology*, January, 1960) states that rotation of the kidney of significant degree around its transverse axis may generally be recognized on antero-posterior skiagrams of the abdomen or on urograms. It is manifested in a shorter X-ray image of the kidney, blunting of the lower pole, shorter longitudinal diameter of the calyceal system, and a higher position of the uretero-pelvic junction. The rotation occurs almost always with the lower pole displaced anteriorly. Rotation around the transverse axis may also result in a palpable mass in the renal region; this is produced by the anteriorly displaced lower pole. Rotation may be an indication of encroachment on the intraabdominal space (both intraperitoneally and retroperitoneally) in the vertical direction, either by a mass adjacent to the upper or lower pole of the kidney, or by a tumour of the kidney itself. Such an encroachment may also be the result of an enlargement of the liver, gall-bladder, or spleen. Rotation around the transverse axis is rather commonly associated with ptosis of the kidney, and has also been observed to follow surgical mobilization of the kidney and after nephropexy. It should not be confused with an abnormally small (contracted or hypoplastic) kidney or with a renal cyst or tumour. Rotation should be excluded when the size and shape of the kidney are to be evaluated on the basis of an antero-posterior skiagram.

Arachnoid Cyst of the Spinal Canal.

R. O. MARRAY (*Brit. J. Radiol.*, October, 1959) states that intradural arachnoid cyst of the lumbar part of the spinal canal, which carries such a satisfactory prognosis, should be considered in the differential diagnosis of backache. It may be impossible to differentiate the clinical picture from that of a prolapsed disc. Radiological examination has shown in plain films evidence of space-occupying lesions within the neural canal, namely, resorption of the surrounding bony structures as a result of long-continued pressure. In antero-posterior projections such resorption becomes evident through thinning of the pedicles from within out. The interpedicular distances become enlarged in relation to those above and below the lesion. In lateral projections scalloping of the posterior aspects of the vertebral bodies in contact with the lesion is likely to be seen. Lumbar myelography in the case reported showed unusual appearances. Some obstruction was encountered at each intervertebral level from third lumbar to eleventh dorsal. The opaque medium tended to pool opposite each vertebral body in turn in this area, the pools corresponding with the posterior scalloping noted in the plain films. Examination of the patient in the supine position with a lateral projection showed a continuous column of opaque medium lying in the posterior portion of the spinal canal and, by comparison with the lateral film in the prone position, demonstrated clearly the abnormal dilatation which had taken place.

Arteriography in the Diagnosis of Bone Tumours.

B. STRICKLAND (*Brit. J. Radiol.*, November, 1959) discusses the arteriographic findings in primary and secondary malignant tumours and in benign tumours of bone. He states that the following facts seem to be fairly well established. The majority of primary malignant bone tumours show arteriographic evidence of malignancy. A normal arteriogram does not exclude malignant change; in two of 33 primary bone tumours the arteriogram was normal although the tumour was malignant. Chordomas, osteomas, chondromas and related tumours show no abnormal features in the arteriographic picture. Chondrosarcomas, fibrosarcomas and slowly growing reticulum cell sarcomas may give a deceptive appearance of innocence in their early stages. Osteoclastomas may give rise to a very variable pattern; the very vascular innocent type may be easily confused with the type showing early malignant change. The vascularity of a metastasis is roughly proportional to the vascularity of the primary tumour. The site of the primary tumour cannot be deduced from the vascular pattern of the metastasis. It is not usually possible to differentiate between primary and metastatic bone tumours from the arteriographic appearances alone, or between different types of primary bone tumour. Arteriography is of the greatest value in the following circumstances: (i) when there is difficulty in deciding whether a lesion in bone is due to malignant disease or to a non-neoplastic condition; (ii) in defining the extent of a lesion both within and without the bone prior to embarking upon deep X-ray therapy or surgery; (iii) to discover whether there is involvement of bone by a neoplasm of the soft tissues adjacent to the bone; (iv) to determine the onset of malignancy in a tumour previously thought to be benign.

Bone Lesions of Childhood Leukæmia.

J. K. V. WILLSON (*Radiology*, May, 1959) has reviewed the long-bone radiological appearances in 140 cases of childhood leukæmia. The most common abnormal finding was a transverse radiolucent line at the metaphyses of the long bones. Osteolytic destructive lesions and periosteal reaction were also observed. The bone lesions of leukæmia are compared with the bone lesions observed in 30 unselected cases of neuroblastoma, which may resemble leukæmia radiologically, and with those in 25 cases of rheumatoid arthritis and 20 cases of anæmia, which may bear a clinical resemblance to leukæmia. The occurrence of the transverse radiolucent line at the metaphysis in diseases other than leukæmia

was investigated by a review of 740 consecutive long-bone examinations. It was observed in 28 patients below the age of two years and in four patients over that age. The author concludes that the presence of this lesion in a child over the age of two years may indicate a diagnosis of leukæmia. It was not observed in association with neuroblastoma, rheumatoid arthritis, or the anæmias. Below the age of two years, this lesion may occur in association with many chronic diseases. The advanced destructive lesions of leukæmia present a characteristic pattern, unlike that in other diseases except metastatic neuroblastoma. Clinically, the differential diagnosis from this latter condition is usually clear; radiologically, the presence of a transverse radiolucent metaphyseal line associated with destructive lesions is in general indicative of leukæmia, as this line is not observed in neuroblastoma.

Bronchial Adenoma.

O. CH. POCK-STEEN (*Acta. radiol. (Stockh.)*, April, 1959) discusses the radiological aspects of bronchial adenoma in a series of 19 cases. This lesion may in rare cases be present as a silent, peripheral tumour and be revealed during a routine X-ray examination of the chest. In most cases, however, it arises in the larger bronchial branches near the hilum, and may thus produce bronchial occlusion and atelectasis of a large segment of the lung, giving rise to a productive cough and recurrent attacks of pneumonia. Bronchography and tomography are of great diagnostic value and should be carried out in any case of recurrent pneumonia or atelectasis in young as well as in older subjects. If a bronchogenic tumour is present, these procedures may disclose a roundish, well-defined lesion projecting into the bronchial lumen; in a patient with a long history such an appearance supports the diagnosis of a benign tumour. Associated hæmoptysis indicates a bronchial adenoma, which is a tumour which bleeds readily; other benign bronchogenic tumours seldom give rise to hæmoptysis.

RADIOTHERAPY.

Telecuriethérapy.

C. W. WILSON (*Brit. J. Radiol.*, February, 1960), in a presidential address to the British Institute of Radiology, gives a brief survey of telecuriethérapy from its inception to the present day. Prior to 1929 small radium units were in use, consisting of some two to five grammes of radium used in the form of an applicator. By 1949 up to 10 grammes of radium had been used in a pneumatic transfer unit and gradually teleradium treatment developed in importance, and instead of, as in earlier years, taking a secondary place, it came to be looked upon as the primary form of treatment in cancer of the head and neck. By 1952 some radioisotopes had become available and this led to a great change. Cobalt-60, which emits monochromatic gamma radiation of 1·25 MeV energy, became available in specific activities such that even 1000 curies weighed only some tens of grammes. This made possible a unit with an increased treating distance yet still giving a clinically useful dose rate. In 1953 the first cobalt-60 moving beam unit was described, and since then a considerable variety of cobalt units of both the fixed head and rotation types have become commercially available. With these units have come an increased knowledge of dosimetry and a necessity for adequately trained hospital physicists. It would seem that further work in these fields, in radiobiology and in time spacing and fractionation of total tumour dose will result in more effective use of this equipment.

Superficial X-Ray Therapy.

R. KAYE SCOTT (*Proc. Coll. Radiol. Aust.*, December, 1959), in a discussion of superficial X-ray therapy, states that consideration of late scarring after X-ray therapy for skin carcinoma necessitates a review of optimal sessional dosage, the interval between fractions, the choice of radiation quality and field localization. After discussing these factors, he describes a new method in use at the Royal Melbourne Hospital, which consists of eight fractions of 500*r*, three doses being given weekly except in the third week, when the middle dose is omitted. A routine of field-size reduction is practised in successive weeks to diminish edge effects on scars. The essential object is to maintain the high cure rate, and it has been noted that there is a significant improvement in radiation scars after use of the method described.

High Pressure Oxygen and Radiation Therapy.

C. SANGER (*Amer. J. Roentgenol.*, March, 1959) discusses the use of high oxygen pressures in radiation therapy. He states that there has been considerable interest in the relationship between cell radiosensitivity and oxygen concentration in the environment, since it had been shown that suboxygenated cells are relatively insensitive. Such cells are probably present in various tumours, and if the oxygen tension is increased the sensitivity of these cells may be restored. This has been done in man by inhalation of oxygen under high pressure in a chamber. The author describes the technique in use at St. Thomas's Hospital. The aim is to restore the differential radiosensitivity to the tumour cell without unduly increasing the susceptibility of the normal cell. This initial response has been encouraging, though no statistical evidence is yet available. The initial response in 11 cases of carcinoma of the tongue, tonsil and pharynx and in two chondrosarcomas greatly exceeds the response that might have been expected from conventional methods.

Total Thoracic Irradiation with Intravenous Injection of Autogenous Marrow.

K. A. NEWTON (*J. Fac. Radiol. (Lond.)*, January, 1960) has treated seven patients with widespread pulmonary metastases by irradiation facilitated by the infusion of stored fresh autogenous marrow. Irradiation of large volumes of tissue results in severe damage to the marrow spaces. In five of the seven patients there was evidence to suggest that repopulation of the marrow spaces occurred which had been emptied by the damaging effects of irradiation. In three of the patients radiation pneumonitis was responsible for death, but even so their lives were prolonged by virtue of the complete disappearance of metastatic disease. In two other patients death occurred from uncontrolled disease. Two patients remained alive and well for four months after irradiation, with complete regression of metastases and no evidence of radiation pneumonitis. These patients did not receive more than 150*r* per day; the others received 300*r* per day to a total dose of 3000*r*. The author states that this appears to be a useful method of combating hæmatopoietic depression where large volume irradiation has to be undertaken in the treatment of relatively radiosensitive tumours.

Multiple Myeloma Treated with ^{131}I.

H. E. M. KAY, E. M. LEDLIE AND R. C. SBRESNI (*Brit. J. Radiol.*, December, 1959) report on the treatment of a series of cases of multiple myeloma by radioactive iodine. This was selected as a means of total body irradiation in the hope that a sufficiently high blood dose would be achieved to irradiate the affected bones to a dose sufficient to relieve generalized pains without damaging blood-forming tissues. Thyroid uptake was blocked in each instance with Lugol's iodine, and the ^{131}I was administered in the form of iodine and as iodinated human serum albumin. Relief of generalized pains for up to three months was obtained on two occasions after use of ^{131}I as iodide, and in two other patients after use of ^{131}I as iodinated human serum albumin. The biochemical findings were not altered nor was the anæmia associated with the disease affected by the radioiodine therapy. There are certain advantages in using iodinated human serum albumin, as exposure to staff is reduced and urine collection is not essential. The authors conclude that the method seems worthy of further trial, in conjunction with other methods.

Effect of Oxygen Concentrations on Radiosensitivity.

C. W. WILSON (*Brit. J. Radiol.*, December, 1959) discusses the effect of breathing atmospheres of different oxygen concentrations on the radiosensitivity of the mouse knee joint as measured by the depression of uptake of phosphorus-32. He states that the dependence of radiosensitivity upon oxygen supply is well known and describes a method of investigation in which radioactive phosphorus is given intraperitoneally to three-weeks-old albino mice. The radiosensitivity of the mouse knee joint was shown to depend upon the oxygen content of the atmosphere breathed during irradiation. No increase of sensitivity was found when the atmosphere consisted of pure oxygen, but reduction of atmospheric oxygen to 10% reduced the radiosensitivity to approximately 50%.

Brush Up Your Medicine.

OTITIS MEDIA.[1]

Acute Otitis Media.

Ætiology.

About 80% of cases of otitis media occur in children under 10 years of age.

The short Eustachian tube in infants is a predisposing factor.

It is often secondary to upper respiratory tract virus infection.

It occasionally follows sinusitis, pharyngitis and rhinopharyngeal surgery.

The focus of infection may be tonsils and adenoids, with acute otitis media a distal manifestation.

Causative Organism.

Staphylococcus aureus, Streptococcus hæmolyticus and *Pneumococcus* are the commonest causative organisms.

Diplococcus pneumoniæ and *Hæmophilus influenzæ* also occur.

In the absence of discharge, a post-nasal swab is sometimes of value.

Treatment.

Account must be taken of severity of illness, degree of pain, extent of general systemic upset and previous history, in assessing appropriate treatment.

Decongestant nasal drops or inhalations, occasionally supplemented by antihistaminics, facilitate drainage of the Eustachian tube.

Evidence of pus in the middle ear necessitates prompt myringotomy.

Antibiotic therapy is indicated for an adequate period.

If there is a recurrence, or persistence, of pain and/or discharge after an extensive course of antibiotics, investigation of the mastoid by a specialist is indicated.

Therapy has not succeeded unless and until the drum has resumed its normal appearance and normal hearing has returned.

Indications for Antibiotic Therapy.

Antibiotic therapy is always indicated in a feverish and toxic patient.

One should wait 24 to 48 hours if only earache and a red drum are present, as in many cases the condition clears up satisfactorily without antibiotics or chemotherapy.

If pus has formed, the most favourable time for antibiotic therapy has passed, although it may still be necessary on occasions.

If there is suspicion of mastoid involvement, antimicrobial therapy is indicated in maximum dosage.

Local antibiotic therapy is usually unnecessary; in any case it is useless prior to perforation of the drum.

Where response to systemic therapy is not as prompt as might be expected, 10% chloramphenicol in propylene glycol may be used as a local instillation.

Antibiotic of Choice.

The antibiotic of choice depends on history, clinical findings, culture and sensitivity tests.

Penicillin should be given in massive doses with sulphonamides—preferably sulphamethoxypyridazine ("Lederkyn", "Midicel"), sulphafurazole ("Gantrisin") or sulphadimidine ("Diminsuls", "S-Mez", "Sulphamezathine").

If the organism is penicillin-resistant, chloramphenicol or one of the tetracyclines will be necessary.

A massive adult dose of benzylpenicillin would be 1 mega unit 2 to 4 times daily, or procaine penicillin 1 mega unit daily.

Phenoxymethylpenicillin, as tablets or oral suspension, may be preferable for the younger age groups.

Remarks.

Myringotomy is still not carried out often enough.

Chemotherapy and antibiotics are excellent aids to surgery but are not substitutes for it.

A shorter illness means fewer complications and less risk of hearing loss.

Patients seen later should be treated more intensively.

Especially in children and infants, if the infection is resistant or recurrent, repeated courses of antibiotic therapy are not recommended. Investigation and treatment of the underlying cause is imperative.

Acute otitis media should always be considered in cases of pyrexia of unknown origin, especially in children.

Occasionally chemotherapy may translate an acute infection to a latent or even a "masked" infection, in which overt suppuration is not obvious and a resistant organism is present. These are the cases in which the patient can easily end up with a hearing defect.

Chronic Suppurative Otitis Media.

Ætiology.

Most cases of chronic suppurative otitis media follow an acute attack which has not resolved.

A few arise insidiously and are tuberculous in nature.

Causative Organism.

Staphylococcus aureus, Streptococcus hæmolyticus and *Pneumococcus* predominate, but are often complicated by *Proteus vulgaris* (in approximately 45% of cases) and *Pseudomonas pyocyaneus.*

Predominating organisms may change, necessitating a change in antibiotic therapy.

Escherichia coli should not be overlooked.

Treatment.

Principles of treatment consist of drainage through the perforation and through the Eutachian tube. The perforation probably will not close until the Eustachian tube is patent.

The ear should be cleansed carefully.

Antiseptics should be used with caution and care exercised in choice of solution. Glycerine and phenol drops are contraindicated.

Insufflation with boric/iodine powder at regular intervals is useful.

Reinfection from without should be avoided.

Healing should be promoted.

It may be necessary to syringe the ear with a mild acid solution (dilute acetic acid).

Surgery or chemotherapy for concurrent nasopharyngeal conditions may be necessary, with or without antibiotics.

Indications for Antibiotic Therapy.

It can be assumed in most cases that the usual régimes of treatment of acute otitis media have failed if antibiotic therapy is necessary.

Indications depend on the history and results of sensitivity tests.

Systemic antibiotic therapy is rarely necessary unless there is suspicion of mastoid involvement.

Local antibiotic therapy is often useful and may with advantage be combined with one of the corticosteroids which aids in reducing congestion and relieving pain, especially if there is associated otitis externa. The vehicle for local antibiotic therapy is propylene glycol.

Antibiotic of Choice.

Culture and sensitivity tests are obligatory.

Antibiotics of choice for local use are: Polymyxin B sulphate (bactericidal) for *Ps. pyocyaneus;* neomycin sulphate (bactericidal) for *Proteus vulgaris;* chloramphenicol (bacteriostatic), which is often invaluable if *Staphylococcus* is penicillin-resistant.

Systemic administration of broad-spectrum antibiotics will depend on the laboratory report if the patient's condition warrants more intensive treatment.

Remarks.

The focus of infection in this condition is primarily located in the mastoid antrum or Eustachian tube.

[1] No. 1 of a series of synopses prepared by Dr. Alex Johnson in collaboration with the Australian College of General Practitioners. Each synopsis has been submitted for approval to a leading member of the College, to a professor of pharmacology and to a specialist in the field concerned.

Knowledge of the causative organism is a prerequisite to successful treatment.

The dangers of "masking" and "latent infection" are particularly important in ear infections treated with antibiotics given systemically. Any signs indicating a mastoid flare-up—e.g., temperature, pain and swelling behind the ear—should immediately be referred for specialist investigation.

In recurring otitis media hearing is impaired in approximately 50% of cases.

ALEX JOHNSON.

British Medical Association.

SOUTH AUSTRALIAN BRANCH MEMORIAL HALL.

ON May 11, 1960, the new Memorial Hall of the South Australian Branch of the B.M.A. was opened by the Premier of South Australia, Sir Thomas Playford, at the headquarters of the Branch, Newland House, 80 Brougham Place, North Adelaide.

Dr. G. T. Gibson, the President of the Branch, who was in the chair, welcomed the Premier as well as other visitors and members of the Branch.

Sir Henry Newland, at the President's request, then outlined the history of the hall, with which he had been associated from the beginning. An outline of this history is given below.

Sir Thomas Playford, after expressing his pleasure at the very satisfactory hall that the Branch had erected, declared it open.

Dr. J. G. Hunter, General Secretary of the Federal Council of the B.M.A. in Australia, in proposing a vote of thanks to Sir Thomas Playford, referred to a number of ways in which the South Australian Branch had given a lead to the B.M.A. in Australia. He pointed out that the first Branch of the B.M.A. to be formed in Australia was the South Australian Branch, and that the first president of the original Federal Committee of the B.M.A. in Australia, Dr. W. T. Hayward, was a South Australian, as was the first president of the Federal Council of the B.M.A. in Australia, Sir Henry Newland.

Dr. C. O. F. Rieger, in seconding the vote of thanks, paid a tribute to the work of the Secretary of the Branch, Mr. F. C. W. Dobbie, and to other members of the Branch staff who had made important contributions to the task of bringing the hall into being.

The History of the Memorial Hall.

The move to provide a hall for the Branch first began on December 13, 1913, when a group of interested doctors took steps to form the British Medical Hall Company Limited. The first two objects of this Company were:

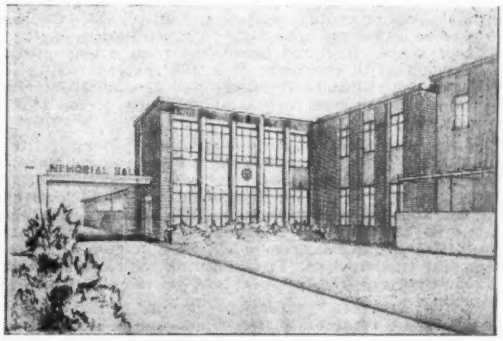
> 1. To purchase the freehold land and buildings known as Lady Colton Hall, Hindmarsh Square, Adelaide . . .
>
> 2. To permit the said land and buildings or any part thereof, or other land or buildings purchased or otherwise acquired by the Company to be used by the South Australian Branch of the British Medical Association, on such terms as the Company shall think fit, and at a nominal rental or rent-free, and for any other purpose which the Branch or its Council may, in its or their absolute discretion, deem necessary, proper or desirable in the interests of the Branch . . . .

The Company was formed for the purpose of conducting a Medical Agency and to engage in this and other income-producing activities with members of the medical profession on behalf of the Branch, whose rules and by-laws did not permit it to do this. As the name of the Company implied, its object was to acquire a hall or meeting place for members of the South Australian Branch of the British Medical Association.

The necessary finance to purchase the Hindmarsh Square property was raised by issuing shares in the Company to those doctors who contributed, and the property was later bought and the Lady Colton Hall used for scientific meetings and lectures, and for other purposes of the Branch for a number of years after its purchase.

For various reasons, however, this property later became unsuitable; it was eventually sold at a profit, and a large part of the proceeds were invested in a (then) vacant block of land which was situated on North Terrace, next to the Electricity Trust premises, and on which Elizabeth House now stands. This land was held by the Company for a number of years, including those of the second World War, and was in turn sold in May, 1949, at a greatly enhanced value, in favour of a site situated in Kermode Street, North Adelaide. This latter site offered ease of access, with right-of-way to the property from King William Road and no attendant parking problems.

Whilst the Company still possessed this site, the present property situated at 80, Brougham Place, North Adelaide, became available. The advantages of this over the Kermode Street site were quickly realized, and steps were taken by the Company to purchase it in 1951 at auction for the sum of £11,500. A further amount of £10,500 was expended in alterations and additions to the new property so as to provide suitable office accommodation for the Branch and three professional suites for letting purposes. The Kermode Street property was sold in February, 1954, the proceeds being applied towards the costs of conversion of the Brougham Place property.



On December 18, 1958, the Hall Company was placed into voluntary liquidation, and the assets of the Company (including the Brougham Place property) were placed in the name of the Branch. This was made possible by the Branch acquiring, either by gift or purchase, all outstanding shares in the Company. A special building committee under the chairmanship of Sir Henry Newland, who had been one of the original founders of the Hall Company and its first honorary secretary and then its chairman for many years, was appointed to discuss with the architect the provision of badly needed office accommodation and the erection of a memorial hall. A tender for the sum of £41,556 was accepted, and the project which commenced on July 6, 1959, was completed at the end of March, 1960.

Now, just over 34 years since the Hindmarsh Square property was disposed of, the Branch again has a hall of its own. This has been dedicated to the memory of the medical officers who lost their lives in the first and second World Wars.

Design and Equipment.

The following notes on the design and equipment of the hall have been supplied by the architects, E. H. McMichael & Harris, of Adelaide.

The B.M.A. Hall building committee required a hall attached to their existing B.M.A. offices which would seat approximately 400 people in comfort, and be adaptable for lectures, cinema projection, receptions, banquets and possibly an occasional ball. Further requirements were the usual cloak and lavatory accommodation for both sexes, a kitchen to comply with the requirements of the hall and an assembly area for official guests.

Site.—The limitations of the size of the building were fixed by the side boundaries on east and west, the existing building on the south and in the north a line which was fixed by the requirements of a future block of professional suites facing Ward Street. It was also desired that a driveway be incorporated along the west boundary connecting Brougham Place to Ward Street.

Aspect.—The southerly aspect commands a magnificent view over parklands and the City of Adelaide, which dictated the siting of the foyer and club room on this front.

Plan.—In the arrangement of the plan, probably the most important factor was the size, siting and equipment of the

kitchen to enable it to cater for and give convenient service to assemblies of from 50 to 500 in number, in one or several rooms. The kitchen equipment was limited to catering for one hundred people, it being recognized that numbers in excess of this would be rare and more economically catered for by the catering contractor using his own equipment. The building committee considered it desirable that on occasions when official guests were to be seated on the stage, they should gain access thereto without passing through the hall. The plan enables official guests to assemble in a "club" room situated over the foyer. A stair from this room discharges into a corridor which leads to the stage, thus enabling guests to have access to the stage without passing through the hall. The club room is also equipped with a small steward's room from which refreshments can be served on the occasion of small functions held in this room.

The Hall.—The hall is floored with Keruing T. & G. boards polished and coated with a colourless plastic wood preservative. Wall dados to seven feet are of cream brick and above the dado to the ceiling of plaster, except the rear wall, which is lined with acoustic plaster tiles. The ceiling is sloped, curved, and stepped in five bays and lined with "Pyrok". Each step has a projecting cove 15 inches below the top of the next sloping ceiling section and fitted with fluorescent lights. The steps are also used for ventilation of the hall into roof space. A sound board has been constructed over the proscenium in the form of a 45° splayed ceiling intersecting the sloped and curved ceiling. Also a reflector board of similar pattern was formed at the back of the hall over the acoustic plaster tiles.

Lighting.—Dimming equipment was thought to be unnecessary. Grouping of lights to several switches with progressive switching is used to obtain the same effect. First lighting of the hall is by fluorescent lights in rows across the hall and in light troughs at the toe of each sloping section of the ceiling. Each row is separately switched. Second lighting comes from one switch to two large pelmet lights over the windows. Final lighting with several switches is from flush spotlights sunk into the sloping surfaces of the ceiling.

Heat.—Heat is obtained from gas thermolators, and the same method is adopted in the foyer and club room.

Hearing Aid.—A hearing aid installation is by inductive loop surrounding the hall, under the wood floor, to transistorized Philips inductive loop receivers type EL 73600/00.

Public Address System.—The public address system installed is by Philips.

Projection.—For general projection purposes a mobile platform of steel tubing and wood floor and shelves and table top has been supplied. Housed in the chair store, this platform can be wheeled on to the hall floor adjacent to a small hinged trap, in which are housed remote control plugs for plugging into the platform. The projection operator can carry out the necessary progressive switching to illuminate or darken the hall.

Signals.—A 20-watt tube light with hood has been fitted near an exit door and facing the audience with a local switch. Under the light is fitted a small movable blackboard. On receipt of a call for a doctor in the audience, an attendant will chalk the name on the board and switch on the light. To warn a speaker that his time limit is approaching, a small flush red light has been set in the stage front. It is operated from a plug-in torpedo switch and flex which can be held by a person seated on the stage. A signal light on the side of the proscenium is similarly operated by a lecturer using a projector or epidiascope.

Ventilation.—Ventilation is by two 36-inch 470 r.p.m. G.E.C. fans mounted in the gable ends of the roof over the hall. Smaller extractor fans draw air from the foyer and club room.

Correspondence.

THE MANAGEMENT OF EARLY BREAST CANCER.

SIR: I wish to disagree with Dr. Ackland, Dr. Holman and Dr. Stoll (MED. J. AUST., May 21) on several matters concerning the treatment of carcinoma of the breast.

The authors state: "It is important to recognize that patients so treated by 'simple' surgery usually receive both X-ray therapy and ovarian ablation therapy in addition." McWhirter abandoned ovarian ablation shortly after his adoption of the simple mastectomy technique.

It is with comfort we read that, while the radical operation is performed "indifferently" in Edinburgh, all is well in Melbourne.

That "radiation cannot destroy axillary metastases with any certainty" is true only when the dosage is inadequate, or the tumour bed unfavourable, as is the case in a scarred axilla.

If "the morbidity of both operations [simple and radical] is practically the same", the authors' gentle description of the simple mastectomy should, therefore, be applicable to the radical procedure—"a quick and uneventful convalescence follows in most cases, and it is found that the operation can be quite easily conducted with the minimum of disturbance to the patient".

It is stated that a small proportion of cases after preoperative irradiation showed no demonstrable tumour tissue at subsequent operation. Why, then, "must it be emphasized that an inoperable tumour cannot be made operable by a course of X-ray therapy"? The peripheral portion of a tumour, which is the part responsible for the inoperability, has a more favourable blood supply, and hence greater radiosensitivity, than the main bulk of the tumour, so that it is quite possible on rare occasions to render operable an inoperable tumour in any situation.

Ovarian ablation does not present the problems claimed. I know of no major religion which forbids this when performed as part of the hormonal control of the breast tumour itself. Nor is there any proof that the procedure is "essentially not curative". The eventual long-term cure of these patients depends very largely on the ability of the host tissues to destroy tumour cells and emboli at an early stage in the disease, and if this can be influenced by hormonal factors at this initial stage, the balance may be tipped in the patient's favour sufficiently to place her in the group whose body resistance is sufficient to effect compiete destruction of tumour cells, so that ovarian ablation may be truly curative in a small proportion of cases. Paterson's clinical trials have shown an improvement in survival rates due to ovarian radiation which has been maintained to the seven-year period, by which time one would expect the benefits of a merely palliative procedure to be lessening.

If the authors believe that irradiation "cannot destroy axillary metastases with any certainty", then the same statement must also apply to the internal mammary and supraclavicular ones; there would seem little point in persisting with the present dosage, and radiotherapy should give way to more extended surgery. We are convinced that adequate dosage is, in fact, destructive to metastatic lymph nodes from breast carcinoma.

Yours, etc.,

The Queensland Radium Institute, K. W. MEAD.
Brisbane,
Queensland.
June 1, 1960.

THE USE OF TIGLOIDINE IN THE SYMPTOMATIC TREATMENT OF SPASTIC PARAPLEGIA.

SIR: Since the publication of "The Use of Tigloidine in the Symptomatic Treatment of Spastic Paraplegia" (MED. J. AUST., January 16, 1960, page 73) we have received many queries regarding the current use of this drug. The following observations, which to some extent modify and add to the content of the paper, may be of interest:

1. The paper as published contains results up to the latter part of 1958. Since then we have continued to use tigloidine, and are convinced that it has a useful place in the treatment of spasms and spasticity due to spinal cord lesions. Its clinical value lies in its ability to render the spasms more difficult to elicit, and easier to break.

2. It has become clear that a higher dosage than previously suggested gives a greater chance of success. We now use 1500 to 2000 mg. daily, divided into 500 mg. units.

3. Although, as reported in the paper, good results may follow the use of tigloidine in cases where the spasms are directly related to gross peripheral stimulation, these cases are now relatively uncommon, and the results are unpredictable. In general terms, the best results in the relief of spasms and spasticity with tigloidine have been in those patients without any gross concomitant peripheral stimulation. When there is such direct stimulation of the reflex arc as by pressure sores, joint contractures, or severe bladder infection, spasms are much more difficult to relieve, and initial treatment should be aimed intensively at the peri-

pheral factors, with subsequent treatment of residual spasm and spasticity. The drug has its chief application in the treatment of the patient whose rehabilitation is being hampered by spasticity. Spasms are reduced in frequency and severity, thus permitting more intensive physiotherapy. This in its turn helps further to reduce spasticity.

4. No injurious side effects have appeared, but some patients complain of dry mouth and difficulty in visual accommodation for about half an hour after ingestion. A more severe manifestation occasionally appears involving vertigo and nausea lasting for about the same time. The drug is less likely to produce side effects if given after meals. Where mild side effects appear, we usually allow the patient to decide whether the benefit received from tigloidine merits putting up with the side effects. If not, use is discontinued. Often, however, this results in deterioration, and the patient requests that the drug be restarted. Since improvement is often slow, patients' perception of it is frequently not clear, and only the cessation of treatment clarifies it. The earliest beneficial effects may only appear after 10 to 14 days' administration.

Yours, etc.,

D. J. E. CHESHIRE,
Director, Spinal Injuries Centre,
Austin Hospital, Heidelberg.

F. H. SHAW,
D. W. BRUCE,
Department of Pharmacology,
University of Melbourne.

Melbourne.
June 14, 1960.

SURGERY AND THE GENERAL PRACTITIONER AND PROFESSIONAL UNITY.

SIR: Reading a recent article in the *Australian Women's Weekly*, apparently written by a surgical specialist, one wonders what can be wrong with our present system of medical education that one of its finished products can retain such a woefully limited and immature conception of the scope and requirements of practice in Australia. Perhaps the following more or less random thoughts may contribute towards stimulating interest and discussion.

Virtually all medical education in Australia is the responsibility of specialists. The whole senior staff of a teaching hospital consists of specialists in restricted fields; this despite the fact that a large percentage of patients are not referred, but require general practitioner assessment and treatment.

There is a vast difference between the point of view of the specialist, preoccupied with clinical problems, clinical research, contributing to the literature, and teaching students, all in his limited field, and that of the general practitioner, coping with the complex interlocking problems of a family, say with an ailing breadwinner.

It is inevitable that the students acquire much of the specialist point of view. The false belief that it is possible to become a good specialist without any period of general practice is almost universal among them, and procedure to a specialist degree immediately after residency is the rule. There is a widespread public belief, largely shared by students, that a specialist is a "better doctor", rather than a practitioner in a limited field, a belief which specialists are not always at pains to dispel. A disturbing number of students and recent graduates are heard to say: "None of our group wants to do general practice."

A young specialist, having acquired appropriate "higher" degrees, dare not leave his teaching hospital to waste a moment in the chastening and broadening field of general practice, lest he be beaten to the all-important first honorary appointment by someone equally well qualified. Indeed, there are so many equally well qualified that he is constrained to acquire as many additional equivalent "higher" degrees as possible—presumably on the principle that a couple of memberships or fellowships must always look better than one.

Colleges and faculties awarding specialist qualifications, by insisting on a period of usually two years' training in a specialist department of a teaching hospital, disqualify all but a small minority of general practitioners from taking their examinations. This has the effect of limiting entry into specialties largely to those without general practice experience. The specialties are thereby the poorer.

In this country of distances, the structure of medical practice must always be based on a body of general practitioners of the highest competence. The general practitioner is the only really indispensable member of the team. Any system which discourages the most competent, the most mature and most balanced students from entering general practice is not good enough.

To summarize: Medical teaching at present is so orientated as to mislead students that specialties are a "higher" field of professional practice than general practice. The more brilliant are encouraged to proceed to specialist degrees without general experience outside a large hospital, and without due regard to the numerical requirements of the specialty. Experienced general practitioners are largely excluded from entering specialties. Specialties overcrowded with young men inexperienced and inexpert outside a limited field must result. Disillusionment and discontent follow.

Perhaps, then, "that this addled thinking could emanate from a mind which had achieved such academic eminence" may not be as incomprehensible as Dr. McDonald, Dr. Godfrey and Dr. Jackson suggest in their excellent reply to the *Women's Weekly* article. It may well be the natural consequence of certain faults which we have allowed to develop in our system of medical education.

Needless to say, the situation is causing no pain at all to those dedicated to, and working for, the destruction of the present structure of medical practice.

Yours, etc.,

RONALD J. HOY.

A.M.P. Building,
Petrie Street,
Canberra City,
A.C.T.
June 6, 1960.

SIR: Further to the article in *The Australian Women's Weekly* (May 4), I wish to report the following telephone conversation between myself and a patient with a minute right inguinal hernia, with whom I felt perfectly capable of dealing, but had referred him to my surgical partner:

"Doctor, this is Mr. X Speaking."

"Yes?"

"Would you please tell me Dr. Y's qualifications?"

"Fellow of the Royal College of Surgeons London". (Subdued) "Oh".

"Doctor, I don't want you to think that I was influenced by the *Women's Weekly* article, I just wanted to know."

That conversation itself is sufficient explanation of my personal opinion of both the article and its author.

Yours, etc.,

"DISGUSTED".

1037 South Road,
Burbank,
South Australia.
June 9, 1960.

SIR: Having been in general practice in a country centre for thirty years, where I have done a considerable amount of surgery, I feel that I am competent to comment on the recent much-discussed article in the *Australian Women's Weekly* and on relevant letters in THE MEDICAL JOURNAL OF AUSTRALIA. The writer of the article has expressed exactly what I have found to be true—I have seen examples of many surgical atrocities perpetrated by medical graduates who, by virtue of lack of knowledge and post-graduate training, have embarked on operative procedures completely beyond their ability.

These cases to which I refer were not in the emergency class, but were elective cases. In addition, I have noted that "easy operations" of the appendix-tonsil type are performed with gay abandon, and by virtue of their frequency must be out of all proportion to their necessity. There is only one royal road to surgical efficiency, and that is willingness to sacrifice time and money on acquiring an adequate surgical post-graduate training. A fellowship in surgery is available to any graduate who can satisfy the examiners; at least then he would have a sound knowledge of physiology, anatomy, pathology and surgical principles. At some time in the near future the Federal Government, as being the largest contributor to the Commonwealth Benefits Scheme, must become interested in the varying capacity of graduates to carry out surgery. Value for money expended will then be demanded, and be satisfied by one of two alternatives. (i) Surgery — except in exceptional circumstances — to be

carried out by approved surgeons only. An approved surgeon would be one preferably with a senior qualification, but perhaps one who over the years has become recognized as having exceptional ability. (ii) A nationalized health scheme on the United Kingdom pattern.

Yours, etc.,

JOHN S. BOTHROYD.

195 Deakin Avenue,
Mildura,
June 15, 1960.

TINEA CONTRACTED FROM KANGAROOS.

SIR: I was most interested to read Dr. G. F. Donald's report of cases of tinea contracted from kangaroos (MED. J. AUST., May 28, 1960).

It has not been an absolutely rare experience for me to see cases of tinea trichophyton in patients who had been skinning kangaroos, foxes, etc.

The worst cases of tinea circinata I have ever seen were three young children in the same family. They had been visiting in the country and had been handling rabbit kittens obtained during "digging out" operations on the station. Each child was smothered in lesions, which numbered hundreds in each case. The mother had a few lesions on her arms. The lesions were distributed on the limbs, body and face, and were somewhat inflamed. The mother recognized the condition early, and by covering the heads had saved scalp involvement. The property the family had been visiting was in a hot area; consequently the children were wearing the minimum of clothing. The culture of the scale grew *Microsporon lanosum* and not a trichophyton, as I had expected. No cat kittens or pups were on the station at the time when the infection was acquired.

Comment.

Where cases of ringworm arise in children who come from the country, and where there is no history of contact with cat kittens, pups, or other infected children, it is worth while remembering rabbit kittens as a possible source of infection, as well as pet kangaroos as reported by Dr. G. Donald.

Yours, etc.,

J. M. O'DONNELL.

170 St. George's Terrace,
Perth,
Western Australia.
June 4, 1960.

COMMUNICATING WITH THE PATIENT.

SIR: The lesson we learn from Ainslie Meares's splendid article[1], deservedly noticed by you in two editorials,[2] is that medicine is a very difficult art. The essence is complete trust and friendly communication between doctor and patient. The patient knows immediately if the doctor is hostile or suspicious; his faith vanishes and the battle is lost at the beginning. The treatment of a patient with the painful sequelæ of injury is often sadly mishandled, especially if he is fighting for compensation.

If a patient with intractable pain can discern boredom or hostility in the first specialist he sees, a foundation of invalidity and unhappiness will be laid. It is still worse to be told that the pain is not in his body but in his mind. The diagnosis may be the ancient refuge hysteria or the newer one compensation neurosis, which that wise old psychiatrist Millais Culpin[3] called "a prostitution of scientific terminology". Both terms make the psychiatrist appear unkind; but rather he is mistaken in attempting to treat a physical state with psychiatric methods. A title like "Traumatic Hysterical Conditions in Damages and Compensation Claims" (listed for discussion in a medico-legal body in Melbourne) is frivolous, because it accepts a fallacy as a fact.

Pain has been studied by hundreds of scientific doctors since Weir Mitchell[4] a century ago. Let us hope that their work will not be swamped by "views which . . . abolish at one stroke many tough problems with which the greatest intellects have struggled . . . for more than two thousand years by inviting the student to shut his eyes to them, to turn resolutely away from them, and to forget that they exist" (W. McDougall, cited by Culpin[3]).

Medicine is the same the whole world over. A few years ago a Dutch surgeon[5] said:

> Many patients suffering from long-standing dystrophy are regarded as neurotics and treated accordingly (or rather not treated). Most of them fall victim to the still widely spread lack of knowledge among the practitioners, who are still largely unfamiliar with the syndrome of dystrophy. The continuous pain, the fear of being invalided, the odium of hysteria and the lack of interest of the doctor for their complaints ultimately cause these patients to lose their psychological balance . . . . There are no arguments in the literature in favour of the widely accepted theory that the primary cause of dystrophy lies in the psychological lability of the victim. All investigations of this particular aspect (Dubois, Kaier, Miller and De Takats, Shumacher, Schneider) reached a negative conclusion. This is completely in accordance with our personal experience.

Yours, etc.,

MICHAEL KELLY.

410 Albert Street,
East Melbourne,
Victoria.
June 9, 1960.

THE ORGANIZATION OF THE PROFESSION.

SIR: For too long the bulk of the hard-working medical profession has not been adequately represented by State Councils.

In Victoria too many representatives are specialists who have never indulged in general practice. The Medical Society of Victoria has ex-officio representatives and is long since defunct. There are ex-officio heads of Government departments. Any Government board always has the same names, and hence their opinions are quoted as that of the profession.

Now is the time to form a more democratic representative society. Lack of ability to contact representative Federal medical officers and the delay in giving an answer by them could lead to death of patients. It is now or never. The future of the profession is at stake.

Yours, etc.,

R. H. BOYT.

352 Burke Road,
Glen Iris,
Victoria.
June 6, 1960.

REVIEW: NEO-NATAL PÆDIATRICS.

SIR: Your reviewer appears surprised at the statement by Dr. Robert Collis that no case of retrolental fibroplasia has been recorded among babies born in the Rotunda Hospital. Careful inquiry among pædiatricians and ophthalmologists in this city shows that two cases only have been recorded during the past ten years, one of these babies having been born in the Coombe Hospital and the other one in a nursing home. Three cases were recorded in Northern Ireland during the same period. Certainly no case has occurred in the seven years in which I have been associated with the Rotunda Hospital.

Yours, etc.,

WINSTON S. SMITH.

48 Fitzwilliam Square,
Dublin.
June 1, 1960.

THE IMPACT OF PSYCHOANALYTICAL THEORY ON EDUCATION.

SIR: In his paper "The Impact of Psychoanalytical Theory on Education" (MED. J. AUST., May 28, 1960, page 838), Dr. Maddison has ably condensed a great deal of information and pointed to some valuable conclusions. As he himself stresses, the doctrine of determinism is not easy for us all to accept, perhaps because it may be too rigidly confined to the maturation of man. Whilst I go much of the way with

[1] *Lancet*, 1960, 1: 663 (March 26).

[2] MED. J. AUST., 1960, 1: 777, 855 (May 7 and 14).

[3] *Proc. roy Soc. Med.*, 1936, 29: 1569 (March 4).

[4] "Injuries of Nerves and their Consequences", 1872, Lippincott, Philadelphia.

[5] Bonnet, J., 1955, *Arch. chir. neerland*, 7: 37.

biological determinism, I am inclined to doubt some of its ultimate though limited applications, yet prefer to carry the general principle of determinism even further. Even if the human limits of biological determinism can be defined, we have a considerable degree of free will or choice within those limits. Man has taken a long time, in relation to recorded history, to discover some of the rules which determine life and the existence of matter. Even if the *tempo* is now increasing, there is still a long way to go before we achieve, if ever, that degree of knowledge and ability which initially determined all existence. The creature can never equal its creator, and reason revolts against acceptance of coincidence as the origin of such existential complexity. Could it be that adherence to biological determinism precludes Christianity, whilst belief in existential determinism compels it? We should not be bound so closely to any theory, nor hold so rigidly to an acceptance of biological determinism, that we place beyond our logical appraisal other evidence of a compelling nature.

Yours, etc.,
DOUGLAS VANN.

City Chambers,
Civic Centre,
Canberra.
June 14, 1960.

Out of the Past.

MEDICAL OFFICERS OF HEALTH.[1]

[From the *Australasian Medical Gazette*, September, 1900.]

A SOCIETY of medical officers of health has been formed in Adelaide, and will be known as the South Australian Branch of the Incorporated Society of Medical Officers of Health. The present society is the well known English association whose headquarters are in London but which has branches all over England and Scotland. The need of a combination of some sort has been felt for a long time by medical officers of health in the colony: but a difference of opinion existed as to whether it should be a purely local society or whether it should affiliate with some already existing institution. Correspondence was opened up with the Incorporated Society of Medical Officers of Health in London, and it was ascertained that it was ready to welcome a colonial branch on very favourable terms. The annual subscription is £1.1.0 of which about half will be refunded to cover the local expenses of the branch. The rebate, along with the privilege of obtaining the journal of the society (Public Health) and so enabling members to keep in close touch with work at home, decided the day in favour of forming the branch. So far as we know this is the first colonial branch formed in connection with the society mentioned, and it is an example which might advantageously be formed in other colonies. The first president of the branch is Dr. T. Borthwick, city health officer, the members of the council being Drs. J. H. Evans, G. Bollen and Lermitte and the Secretary Dr. Gregerson.

Medical Matters in Parliament.

HOUSE OF REPRESENTATIVES.

THE following extracts from *Hansard* relate to the proceedings of the House of Representatives.

May 3, 1960.

Pharmaceutical Benefits Advisory Committee.

MR. CAIRNS asked the Minister for Health, upon notice:

1. What is the name of each person who, as (*a*) an officer of the Commonwealth Department of Health, (*b*) one of the four medical practitioners appointed from six nominated by the British Medical Association, (*c*) a pharmaceutical chemist appointed from among three nominated by the Federated Pharmaceutical Service Guild of Australia, and (*d*) a pharmacologist, at present sits on the Pharmaceutical Benefits Advisory Committee?

2. Have any special conditions existed at any time which have rendered it necessary for him not to accept the advice of this committee?

DR. DONALD CAMERON: The answers to the honorable member's questions are as follows:

1. It has never been policy to publish the names of the gentlemen who serve on this committee and who are all eminent practitioners in their respective spheres. They are gentlemen who are actively engaged in their profession and who make available a great deal of their time, and serve on the committee in a voluntary capacity. Publication of their names might well result in their being subjected to unfair and unwelcome pressure from various sources and it is therefore considered inadvisable to do so.

2. It has been the policy to treat the committee's recommendations as confidential to the Minister and this information is regarded as confidential likewise.

May 4, 1960.

Employment of Physically Handicapped Persons.

MR. LUCHETTI: I preface my question to the Acting Prime Minister by reminding him of a recent statement by the Prime Minister in which he expressed interest in the cause of the physically handicapped and indicated that rehabilitation centres and the Commonwealth Employment Service would be made available to them. I now ask the right honorable gentleman to make a more effective contribution to the employment of the physically handicapped by the employment in the Commonwealth Government service of a greater number of disabled persons. Will the Acting Prime Minister confer with his ministerial colleagues and the Public Service Board so that positive steps may be taken to provide employment by easing the stringent health requirements which prevent many disabled workers from obtaining employment in the Public Service? Has the Government given consideration to the introduction of legislation similar to that in force in the United Kingdom, which compels all employers, including the government, to employ a fair percentage of physically handicapped persons in their work forces?

MR. MCEWEN: I do not carry in my mind the information which would enable me to reply in specific terms to the latter part of the honorable member's question. However, the Government's policy and practice have been completely in conformity with the recent statement made by the Prime Minister in which he expressed a sympathetic understanding of the problems of the people suffering from physical disabilities. He also expressed a spirited encouragement for those who work to aid the people who are so handicapped. A section of the department administered by my colleague, the Minister for Social Service, is devoted to the rehabilitation of the physically disabled. I am sure that there are thousands of Australians who would readily testify to the efficacy of the activities of that rehabilitation section. In addition, I know that my colleague, the Minister for Labour and National Service, interests himself, through his department, in the placing of these people in employment. There may be further opportunities to place people suffering from physical disabilities in the service of the Commonwealth, and I undertake to discuss that matter with my colleagues. The Minister for Labour and National Service helps me by reminding me that this matter is at present actively under review.

May 5, 1960.

Employment of Physically Handicapped Persons.

MR. GALVIN: I wish to ask the Acting Prime Minister a question concerning statements made recently by the Prime Minister, the Minister for Labour and National Service, the Minister for Social Services and other Ministers regarding the campaign to employ the physically disabled. Has the Cabinet considered the Boyer report on Commonwealth Public Service recruitment? Is it intended to implement the recommendations concerning the employment of the physically handicapped which, if adopted, would open the way for the Commonwealth to employ those physically handicapped people who are trained for employment by the Rehabilitation Centre of the Department of Social Services? Does the Minister not consider that it would further encourage private industry to offer employment to these people if the Government showed its readiness to do likewise?

MR. MCEWEN: The Cabinet has considered the Boyer report. The particular aspect to which the honorable gentleman referred—the further employment by the Commonwealth

[1] From the original in the Mitchell Library, Sydney.

of disabled people—is as I indicated yesterday in the House in reply to a question at present under examination. The Cabinet has appointed a committee of appropriate senior officers to make a further and more detailed examination, and that group will report back to Cabinet in due course.

Pensions.

MR. JEFF BATE: I wish to ask the Minister for Social Services a question which is supplementary to the question asked by the honorable member for Barton. Is it a fact that the means test in Australia tends to favour superannuated persons as against private persons who have saved? Is it a fact that the effect of this is that some private citizens either divest themselves of their savings in permissible ways or refrain from saving at all? If so, is the savings rate in Australia not suffering as a consequence, although savings are of immense importance? Is the savings rate in Australia only about half of, or very much lower than, that of the United Kingdom?

MR. ROBERTON: It is my opinion that the application of the means test, either with respect to property or income, does not affect the saving rate of the people in our community. The rate of pension appropriate to a superannuated person who has no property is calculated after the application of the income test. The rate of pension appropriate to an applicant who has property is determined after the application of the property test. But income from property is now excluded and by that very device every encouragement is given to people to save. The exclusion of income from property was designed to avoid prejudice, and that purpose has been achieved.

MR. BIRD: My question is directed to the Minister for Social Services. Is it a fact that under the social services legislation an aged pensioner entering a benevolent hospital or a chronic hospital is permitted to keep a proportion of the pension for his own use whilst the pension of a person who is admitted to a mental hospital ceases forthwith? In view of the enlightenment and sympathetic public attitude now existing towards mental illness, will the Minister consider removing this unfair discrimination against an unfortunate section of the community?

MR. ROBERTON: The question addressed to me by the honorable member has been canvassed from time to time by honorable members on both sides of the House, but it has been the traditional custom to accept the situation that the States accept exclusive responsibility for the mentally sick in a community, and, because of that, it is laid down in the *Social Services Act* that if and when a person enters a mental hospital the social service benefit that he has been receiving shall cease until such time as he is discharged from that hospital. When he is discharged the social service benefit is immediately restored and is made retrospective for a period of four weeks of hospitalization.

SENATE.

THE following extracts from *Hansard* relate to the proceedings of the Senate.

May 4, 1960.

National Heart Foundation.

SENATOR DITTMER: I ask a question of the Minister representing the Treasurer. Realizing that cardio-vascular disease is the cause of the greatest number of deaths, the National Heart Foundation is seeking £1,500,000 for research and other purposes. Will the Minister inform the Senate what amount the Government has contributed to the foundation up to the present? What is the total amount that the Government proposes to contribute?

SENATOR PALTRIDGE: The Commonwealth's general provision for medical research is through the John Curtin School of Medical Research at the Australian National University and the Medical Research Endowment Fund. For the first institution the Government is providing £490,000 a year and for the latter it is providing £240,000 in the current financial year. In response to a request for assistance towards the cost of launching the National Heart Foundation appeal the Government has granted £10,000 to the foundation. I understand that the National Heart Foundation desired to set itself up as a completely independent entity, and it asked the Commonwealth Government to donate £10,000 towards the initial expenses of the foundation. This request was met in full.

SENATOR DITTMER: I desire to ask a supplementary question. Did the chairman of the National Heart Foundation express a desire that the foundation receive no moneys from the Commonwealth Government in addition to that £10,000.

SENATOR PALTRIDGE: It may be as well to place on record the letter from the Prime Minister (Mr. Menzies) to Mr. McDonald, the chairman of the National Heart Foundation. The letter is dated 16th December and reads:

> I refer to your letter earlier this year seeking a grant from the Commonwealth towards the initial expenses of the National Heart Foundation of Australia.
>
> Your specific request was for £10,000 towards the campaign for an Australia-wide appeal for funds to be made in April-June, 1961.
>
> As I indicated at your conference in Canberra in February, which I had the privilege to attend, I have nothing but admiration for the task which the Foundation has set itself. I have therefore been very pleased to approve your request for £10,000. I do so in the knowledge that this will be the full extent of the Commonwealth contribution in keeping with the wish of the Foundation to establish itself as an entirely independent organization.

Naval, Military and Air Force.

APPOINTMENTS.

THE following appointments, changes etc. are published in the *Commonwealth of Australia Gazette*, No. 29, of April 28, 1960.

NAVAL FORCES OF THE COMMONWEALTH.

Permanent Naval Forces of the Commonwealth (Sea-Going Forces).

Promotions.—Sub-Lieutenants (U.) (on probation) Lloyd Percival Jenkins and John William Hamilton Meyer are promoted to the rank of Surgeon Lieutenant (on probation), dated 8th January, 1960.

Termination of Appointments.—The appointments of the following are terminated:—Surgeon Lieutenant (for Short Service) Harold Lindsay Thompson, dated 19th February, 1960; Surgeon Lieutenants (for Short Service) William Russell Gibson, Robin Owen Stroud Sims and Alexander Scott Wilson, dated 24th March, 1960.

Emergency List.

Transfer to the Retired List.—Surgeon Lieutenant-Commander Brian Andrew Serjeant is transferred to the Retired List, dated 6th February, 1960.

Citizen Naval Forces of the Commonwealth.

Royal Australian Naval Reserve.

Promotions.—Surgeon Lieutenant John Coleman is promoted to the rank of Surgeon Lieutenant-Commander, dated 6th January, 1960.

AUSTRALIAN MILITARY FORCES.

Australian Regular Army.

Royal Australian Army Medical Corps (Medical).

The following officers are appointed from the Regular Army Special Reserve, Royal Australian Army Medical Corps (Medical), and to be Captains, 3rd February, 1960, with Short Service Commissions for a period of four years: —Captains 4/8052 R. F. Carter and 4/8054 W. O. Rodgers.

Regular Army Special Reserve.

Royal Australian Army Medical Corps (Medical).

To be Lieutenants, 1st January, 1960.—NX700400 Peter Joseph Davies, NX700500 Daryl Austin Chamberlain, VX700401 Geoffrey Leon Richardson, WX700181 Maxwell Thomas Sloss, QX700219 Noel Matthew Thomas Reid and QX700221 Michael Francis Boyle.

To be Captains.—Lieutenants NX700482 J. V. Wells and NX700486 A. K. Chalker, 4th January, 1960; NX700483 D. M. Sheldon, NX700485 A. G. Saareste and NX700487 M. A. Naughton, 11th January, 1960.

The following officers are appointed to the Australian Regular Army, Royal Australian Army Medical Corps (Medical), 3rd February, 1960:—Captains SX700103 R. F. Carter and SX700105 W. O. Rodgers.

Citizen Military Forces.

Northern Command.

Royal Australian Army Medical Corps (Medical).—1/25512 Captain P. W. Leslie is appointed from the Reserve of Officers, 9th February, 1960.

Eastern Command.

Royal Australian Army Medical Corps (Medical).—To be Captains (provisionally)—2/127080 John Patrick O'Brien, 25th February, 1960, and 2/137547 Robin Gerard Wyndham Fisher, 29th February, 1960.

Southern Command.

Royal Australian Army Medical Corps (Medical).—The provisional ranks of the following officers are confirmed:—Captains 3/745021 N. A. Bromberger and 3/101048 J. A. Hayman.

Royal Australian Army Medical Corps (Medical).—6/15245 Major B. A. Smithurst is seconded whilst in the United States of America, 30th January, 1960. The age for retirement of 3/50235 Colonel B. T. Keon-Cohen is extended until 1st June, 1962. The provisional appointment of 3/129011 Captain A. M. Marshall is terminated, 7th January, 1960. *To be Captains (provisionally)*—3/129011 Alan Morrison Marshall, 8th January, 1960, and 3/101960 John Kingsley Dawborn, 25th February, 1960.

Central Command.

Royal Australian Army Medical Corps (Medical).—4/31904 Lieutenant-Colonel P. S. Eyles is seconded whilst in the United Kingdom, 7th March, 1960. *To be Captain (provisionally), 3rd March, 1960*—F4/1261 Margaret Anne Kinlough.

Western Command.

Royal Australian Army Medical Corps (Medical).—5/26544 Captain T. S. Samaha ceases to be seconded whilst in the United Kingdom, 25th January, 1960.

Reserve Citizen Military Forces.

Royal Australian Army Medical Corps (Medical).

The following officers are placed upon the Retired List with permission to retain their rank and wear the prescribed uniform, 30th April, 1960.

Tasmania Command.—Captain N. G. Dineen.

Western Command.—Lieutenant-Colonel N. H. Robinson.

The following appointments, changes, etc. are published in the *Commonwealth of Australia Gazette*, No. 33, of May 12, 1960.

ROYAL AUSTRALIAN AIR FORCE.

Permanent Air Force.

Medical Branch.

The following Flight Lieutenants (Students) are appointed to a short-service commission on probation for a period of twelve months, 4th January, 1960, with the rank of Flight Lieutenant and with seniority in that rank as from 12th December, 1958:—T. T. Pietzsch (0218354), C. F. Allardyce (0218325).

Flight Lieutenant (Student) J. T. Cummins (0312881) is appointed to a short-service commission on probation for a period of twelve months, 9th January, 1960, with the rank of Flight Lieutenant and with seniority in that rank as from 20th December, 1958.

The following are appointed to a short-service commission on probation for a period of twelve months with the rank of Flight Lieutenant:—John Alexander Davidson (019689) 22nd February, 1960; Rodney Francis Greenhill (019699), 1st March, 1960.

Squadron Leader E. R. Bowler (0310759) is granted the acting rank of Wing Commander, 14th April, 1960.

Flight Lieutenant H. T. Cutler (0314200) is granted the acting rank of Squadron Leader, 11th April, 1960.

Squadron Leader K. M. Woods (023095) is granted special leave without pay from 1st April, 1960, to 31st March, 1961.

Air Force Reserve.

Medical Branch.

The following are provisionally appointed to a commission, 1st April, 1960, with the rank of Pilot Officer:—Charles Barnett Edgar Davis (054335), Bryan John Dwyer (054350), Terence George McCarter (054392).

Congresses.

VICTORIAN INDUSTRIAL SAFETY CONVENTION.

THE Victorian Industrial Safety Convention will be held on August 9, 10 and 11, 1960, at the University of Melbourne. Medical aspects of industrial safety will be discussed in various sessions, as follows.

August 10: Industry Sessions.

Meat industry: "Spinal Changes in Workers in the Meat Industry", Dr. B. P. McCloskey, Department of Health, Victoria.

Metallurgical industry: "The Toxicological Hazards of Dust and Fumes in Industry", Dr. D. L. G. Thomas, Industrial Hygiene Branch, Department of Health, Victoria.

August 10: Technical Sessions.

Noise hazards in industry: "Sound and Its Measurement", Mr. N. Lewis, Commonwealth Acoustics Laboratory; "Medical Aspects of Industrial Deafness", Dr. Rory Willis (Otologist); "Noise Control", Mr. A. Carr, Acoustics Pty. Ltd.; "Hearing Conservation Programme", Mr. N. Lewis, Commonwealth Acoustics Laboratory.

Radiation and its safe use in industry: "Health Physics", Mr. D. W. Keam, Commonwealth X-ray and Radium Laboratories; "State Regulations", Mr. E. J. Kearley, State Health Department; "Assessing Safety Requirements of Applications", Mr. K. W. McGee, Austronic Engineering Laboratories; "Radiation Safety Practice in the Factory", Dr. J. G. Campbell, Australian Paper Manufacturers; "Safety Principles in Industrial Radiography", Mr. R. F. Hudson, Engineering Testing and Research Laboratories; "Safety Provisions at Gamma Sterilization Plant", Mr. G. Murray, Gamma Sterilization.

Spray painting safety: "Medical Aspects of Spray Painting", Dr. F. Laidlaw, Chief Medical Officer, Ford Motor Co. of Australia, Geelong.

August 11: General Interest Subjects.

"The Contribution of the Industrial Medical Officer", Dr. W. S. Cooper, Medical Director, General Motors Holdens Ltd., Dandenong; "The Contribution of the Industrial Nurse", Sister E. Oxer, Sister in Charge, General Motors Holdens Ltd., Dandenong.

August 11: Second Plenary Session.

"Human Engineering in Industry", Dr. L. E. Buley, Assistant Director of Aviation Medicine, Department of Civil Aviation.

Post-Graduate Work.

THE POST-GRADUATE COMMITTEE IN MEDICINE IN THE UNIVERSITY OF SYDNEY.

Week-End Course in Pædiatrics.

THE Post-Graduate Committee in Medicine in the University of Sydney announces that a week-end course in pædiatrics will be held on July 30 and 31 in the Doreen Dew Lecture Theatre of the Royal Alexandra Hospital for Children. The course will be under the supervision of the Professor of Child Health, and the programme will be as follows:

Saturday, July 30: 9.30 a.m., "Some Problems in the New-born Nursery", Dr. A. Tink; 11 a.m., "Abdominal Pain in Childhood", Dr. M. L. Edwards and Dr. A. C. Bowring; 12 noon, discussion; 2 p.m., clinical demonstration and discussion, Professor of Child Health; 3.45 p.m., "Management of the Asthmatic Child", Dr. J. M. Alexander.

Sunday, July 31: 9.30 a.m., "Recurrent Otorrhœa", Dr. Joseph Davies; 11 a.m., "Problems in the Management of the Nephritic Child", Dr. C. W. G. Lee and Dr. R. H. Vines; 12 noon, discussion; 2 p.m., "Common Pædiatric Problems": (*a*) "Chronic Diarrhœa", (*b*) "Febrile Convulsions", Dr. J. D. McDonald; (*c*) "Undescended Testis", (*d*) "Herniorraphy", Dr. A. W. Middleton; 3.45 p.m., "Anæmia of the Newborn Infant", Dr. S. E. J. Robertson; 4.15 p.m., question time, Dr. S. E. J. Robertson, Dr. A. W. Middleton.

The fee for attendance is £4 4s. without luncheons and £4 16s. including luncheons. Those wishing to enrol on the course are requested to make early written application, enclosing remittance, to the Course Secretary, the Post-Graduate Committee in Medicine, 131 Macquarie Street, Sydney. Telephones: BU 4497-8. Telegraphic Address: "Postgrad Sydney".

SEMINARS AT SYDNEY HOSPITAL.

THE following seminars will be held at Sydney Hospital during July and August, 1960.

July 6: "Laennec's Cirrhosis, an Analysis of Ætiology, Clinical Manifestations and Prognosis in 150 Patients", Professor James Dauphinée, Professor of Pathological Chemistry, University of Toronto.

July 13: "Pulmonary Hypertension", Dr. D. F. J. Halmagyi (by invitation), Department of Medicine, University of Sydney (Cardio-Vascular Clinic).

July 20: "Cervical Rib Syndrome", Professor Bryan McFarland, Professor of Orthopædic Surgery, University of Liverpool.

July 27: "Small Bowel Syndromes", Dr. Stanley Goulston, Royal Prince Alfred Hospital, Sydney.

August 3: "Current Treatment of Pulmonary Tuberculosis", Dr. T. Selby, Dr. W. Telleson (Pulmonary Clinic).

August 10: "Acute Renal Failure", Dr. H. M. Whyte, Dr. D. Jeremy (Clinical Research Unit).

August 17: "Drug Assessment by Clinical Trial, with Particular Reference to Cyclophosphamide ('Endoxan')", Dr. B. J. Lake (Hæmatology Clinic).

August 24: "The Changing Face of Neurology", Dr. K. B. Noad (Neurology Clinic).

August 31: "Parathyroid Tumours", Professor A. G. R. Bowden, Professor of Surgery, University of Durham, Sir Norman Paul Visiting Professor to Sydney Hospital.

The seminars will be held on Wednesday at 2 p.m. in the Maitland Lecture Hall. They will be preceded by medical grand rounds at 12 noon and by a clinico-pathological conference ("Organ Recital") at 1.30 p.m.

ROYAL PRINCE ALFRED HOSPITAL: EAR, NOSE AND THROAT DEPARTMENT.

Seminar Programme, 1960.

THE staff of the ear, nose and throat department of the Royal Prince Alfred Hospital will conduct a seminar on the second Saturday of every month at 8 a.m. in the Scot Skirving Lecture Theatre. The main speaker will not exceed forty minutes, and there will be a discussion at the conclusion of his remarks. All medical practitioners and clinical students are invited to attend.

At the next seminar, to be held on July 9, 1960, Dr. V. G. Bulteau will speak on "The Significance of Swimming in Ear, Nose and Throat Diseases".

The World Medical Association.

FOURTEENTH GENERAL ASSEMBLY.

THE Fourteenth General Assembly of the World Medical Association will be held in Berlin from September 16 to 22, 1960. At the same time, and in association with the General Assembly, the parliament of the German medical profession, the 63rd Deutscher Ärztetag, will convene. The German medical profession as the host, and the Bundesärztekammer (German Medical Association) as its representative, invites the doctors of the world to attend this important meeting in Berlin. The patron of the Fourteenth General Assembly of the World Medical Association will be Dr. h. c. Heinrich Luebke. A comprehensive programme of plenary sessions, films and scientific meetings has been arranged. There will also be a special international editors' meeting, at which editors of medical periodicals will have an opportunity to discuss their various problems. The German Medical Association is making every effort to see that doctors attending the two meetings are able to become acquainted with the social, economic and cultural life of the city of Berlin, and particularly with the way in which doctors in Berlin conduct their practices. A number of interesting sight-seeing tours into other parts of Europe will also be available before and after the meetings. Further information may be obtained by writing to the following address: Bundesärztekammer-Kongressbüro, Köln-Lindenthal, Haedenkampstr. 1 Deutschland. Early application is advisable.

Notes and News.

Medical Conference in Pakistan.

The Pakistan Medical Association cordially invites representatives from the medical associations of the world to attend the sixth Pakistan Medical Conference, to be held at Karachi, Pakistan, on November 25 to 28, 1960. Additional information with respect to this conference may be obtained from Dr. H. R. Khan, Secretary-General, Pakistan Medical Association, Garden Road, Karachi.

Formation of a Colostomy Association in Melbourne.

A Colostomy Association has been formed in Melbourne, with the object of helping colostomy patients who have difficulty in controlling their colostomies, and also those who are about to undergo the operation. All the members of the Association have colostomies, and there is no membership fee. A visiting committee, composed of both men and women, on request will visit hospitals and patients in their homes, to help by passing on what they have learnt by trial and error. The Association meets every two months. The Patrons are Mr. G. Newman-Morris, Mr. E. S. R. Hughes and Dr. Lorna Sisely. Correspondence and inquiries are invited. The office bearers are as follows: President, Mr. S. J. Myers, 255 Beaconsfield Parade, Middle Park, S.C.6 (telephone MX 3476); Secretary, Mrs. O'Connor, 204 Westgarth Street, Northcote (telephone JW 6531); Assistant Secretary, Mrs. Yeo, 8 Sevenoaks Street, Balwyn (telephone WY 2785); Visiting Organizer, Mr. Ibittson, 10 Waratah Road, Burwood (telephone BW 2175).

Broadcast Talks on Popular Health Education.

The following item on a new activity of the N.S.W. Branch of the B.M.A. is taken from the *Monthly Bulletin* of the Branch for May, 1960:

> A notable phase of the Association's programme for popular health education begins shortly, when the Association uses commercial radio for the first time.
>
> A series of fifty-two health talks, "Your Radio Doctor", will be given weekly over a large number of broadcasting stations, including those of the Macquarie Network.
>
> The sponsor is the Commonwealth Trading Bank of Australia.
>
> Programme times and date of commencement (probably about the beginning of June) will be announced later. The talks, not interrupted by "commercials", are being produced by Artransa Pty. Ltd., with the cooperation of the Macquarie Network. A sample transcription has been played over to members of Council, who have approved the manner of presentation.
>
> In arranging programme times, for 2GB and the various other stations, the aim is to bring the B.M.A. talks to the largest possible adult audience.

National Health and Medical Research Council.

The National Health and Medical Research Council, at its recent meeting in Canberra, adopted a recommendation from its Public Health Committee that manufacturers should be

permitted to add vitamins to food preparations only as prescribed by regulations. The Council accepted as a principle the desirability of meeting the nutritional needs of the people by the use of foods without added vitamins as far as practicable, but it endorsed the principle of the addition of specific nutrients to certain foods, within carefully defined limitations, for the purpose of maintaining good nutrition.

The Council expressed concern at reports from several States which indicated an increase in venereal disease during the last three years. It recommended that representatives of the State Governments should meet in conference to prepare a report on causes of the increase, and to consider measures for more effective control. The proposed conference was asked by the Council to give particular attention to the need to secure uniformity in notifications of the disease and effective means of tracing sources of infection, to look for any Australian evidence of penicillin resistance, and to make recommendations for effectual therapy.

The Council reaffirmed its previous recommendation that the use of sex hormones and related products in face creams and other cosmetic preparations should be prohibited and that sale of sex hormones and related products should not be permitted other than by doctor's prescription.

World Health Organization Membership now 101.

Eleven new members, eight of them newly established African States, have joined the World Health Organization, increasing its total membership to 101, the biggest so far in the United Nations family. The new full members are the Sheikdom of Kuwait, the Republic of Cameroun and the Republic of Togoland. WHO is the first of the United Nations Specialized Agencies to announce membership for Togoland, which became independent from France on April 27, 1960. The associate members are Cyprus, Central African Republic, Republic of the Congo, Republic of the Ivory Coast, Gabon Republic, Republic of the Upper Volta, Republic of the Niger and the Federation of Mali. With the exception of Cyprus, they all belong to the French community.

Associate members of WHO are those States which are not responsible for their international relations and are admitted only upon application by the member or the government responsible for their international relations. The other WHO associate members are the Federation of Nigeria, Federation of Rhodesia and Nyasaland and Sierra Leone.

At the thirteenth World Health Assembly held recently in Geneva, delegates from the Philippines, Japan, Viet Nam and the United States extended greetings to the newly-elected members. The delegate of Ghana said: "Today a great wave of nationalism sweeps over Africa. With the emergence of new nations the World Health Organization should look forward to many more applications for membership from the African region."

Pfizer Travelling Fellowship in Clinical Medicine.

On the recommendation of the Council of The Royal Australasian College of Physicians, the Pfizer Travelling Fellowship in Clinical Medicine (Australia) for 1961 has been awarded to Dr. E. J. Halliday, of the Royal Prince Alfred Hospital, Sydney.

Amalgamation of Two Drug Firms.

From July 1, 1960, Glaxo Laboratories (Australia) Pty. Ltd. and Allen and Hanburys (Australasia) Ltd. will trade in Australia as a single company, to be known as Glaxo-Allenburys (Australia) Pty. Ltd. This amalgamation follows upon the merger in the United Kingdom in 1958 between Glaxo Laboratories Ltd. and Allen and Hanburys Ltd. However, in the United Kingdom both companies maintain their separate identities. The headquarters of Glaxo-Allenburys (Australia) Pty. Ltd. will be at North Melbourne.

International Congress of Dietetics.

The third International Congress of Dietetics will be held in London on July 10 to 14, 1691, under the honorary presidency of Lord Boyd Orr. The chairman is Miss D. F. Hollingsworth (U.K.). The Congress is being organized by the International Committee of Dietitians and the British Dietetic Association, and the theme is "Tradition, Science and Practice in Dietetics". The official languages will be English, French and German, and there will be simultaneous interpretation at the main sessions. The proceedings will be published in English or French. Further information

DISEASES NOTIFIED IN EACH STATE AND TERRITORY OF AUSTRALIA FOR THE WEEK ENDED MAY 28, 1960.[1]

Disease.	New South Wales.	Victoria.	Queensland.	South Australia.	Western Australia.	Tasmania.	Northern Territory.	Australian Capital Territory.	Australia.
Acute Rheumatism	..	1(1)	1(1)	..	..	..	..	..	2
Amœbiasis	..	..	..	..	1	..	1	..	2
Ancylostomiasis	3	..	1	..	..	..	12	..	16
Anthrax	..	..	..	..	..	..	..	..	..
Bilharziasis	..	..	..	..	..	..	..	..	..
Brucellosis	..	..	..	..	1	..	..	..	1
Cholera	..	..	..	..	..	..	..	..	..
Chorea (St. Vitus)	..	..	..	..	..	..	..	..	..
Dengue	..	..	..	..	..	..	..	..	..
Diarrhœa (Infantile)	5(3)	8(5)	7(4)	..	..	..	..	1	21
Diphtheria	..	..	..	..	..	..	..	..	..
Dysentery (Bacillary)	..	1(1)	1	..	..	..	1	..	3
Encephalitis	..	..	..	..	..	..	..	..	..
Filariasis	..	..	..	..	..	..	..	..	..
Homologous Serum Jaundice	..	..	..	..	..	..	..	..	..
Hydatid	..	..	..	..	..	4	..	..	4
Infective Hepatitis	47(21)	35(21)	10	17(10)	1	1	..	..	111
Lead Poisoning	..	..	..	..	..	..	..	..	..
Leprosy	..	..	..	..	..	..	..	..	..
Leptospirosis	..	..	7(2)	..	..	..	..	..	7
Malaria	..	..	..	..	..	..	1	..	1
Meningococcal Infection	..	2(1)	..	..	..	..	..	..	2
Ophthalmia	..	..	..	..	1	..	..	..	1
Ornithosis	..	..	..	..	..	..	..	..	..
Paratyphoid	..	..	..	..	..	..	..	..	..
Plague	..	..	..	..	..	..	..	..	..
Poliomyelitis	2(1)	..	..	..	..	..	..	..	2
Puerperal Fever	1	..	..	..	..	..	..	..	1
Rubella	..	6(3)	..	3(1)	2(2)	..	..	..	11
Salmonella Infection	..	..	..	1	2(2)	..	..	..	3
Scarlet Fever	7(2)	29(13)	4(3)	3(3)	..	2(1)	..	..	45
Smallpox	..	..	..	..	..	..	..	..	..
Tetanus	..	..	..	..	..	..	..	..	..
Trachoma	..	..	..	..	..	..	10	..	10
Trichinosis	..	..	..	..	..	..	..	..	..
Tuberculosis	37(20)	25(13)	3	9(8)	8(4)	5(3)	..	..	87
Typhoid Fever	..	..	..	..	..	..	..	..	..
Typhus (Flea-, Mite- and Tick-borne)	..	..	..	..	..	..	..	..	..
Typhus (Louse-borne)	..	..	..	..	..	..	..	..	..
Yellow Fever	..	..	..	..	..	..	..	..	..

[1] Figures in parentheses are those for the metropolitan area.

relating to the scientific programme and other aspects of the Congress may be obtained on application to the Organizing Secretary, Miss R. Cridland, at the Congress Office, 251 Brompton Road, London, S.W.3, England.

Australian Physiological Society: Inaugural Meeting.

The Australian Physiological Society had its inaugural meeting on May 26, 27 and 28, 1960, at the Department of Physiology, University of Sydney. There were about 150 participants, including physiologists and scientists interested in physiology from all the universities in Australia and New Zealand, from C.S.I.R.O. laboratories and from medical research institutes. There were seven scientific sessions, and a general meeting was held, at which a draft constitution was agreed upon and various other matters relating to the organization and conduct of the new Society were discussed. The first officers and members of council of the Society are as follows: Secretary, Dr. W. V. Macfarlane (Canberra); Treasurer, Professor P. O. Bishop (Sydney); Members of Council, Professor W. Simmonds (Perth), Professor R. Whelan (Adelaide), Professor R. Hawker (Brisbane), Professor R. Thorp (Sydney), Professor J. Evans (Armidale), Dr. B. Morris (Canberra), Dr. I. McDonald (Prospect), Dr. D. Coats (Melbourne).

Medical Appointments.

IN accordance with *The Health Acts*, 1937 to 1958, The Queensland Radium Institute has been reconstituted and will consist of: Dr. A. Fryberg (Chairman *ex officio*); Dr. C. W. Uhr (nominated by the Minister); Dr. O. E. Nothling (nominated by the Minister); Professor H. C. Webster (nominated by the University of Queensland); Dr. A. D. D. Pye (nominated by the North Brisbane Hospitals Board); Dr. O. W. Powell (nominated by the South Brisbane Hospitals Board); Dr. W. J. Arnold (nominated by the controlling body of the Mater Misericordiæ Public Hospitals); Professor D. Gordon (nominated by the British Medical Association, Queensland Branch); Dr. B. L. W. Clarke (nominated by the College of Radiologists, Queensland Branch); Dr. L. M. Archibald (nominated by the British Association of Dermatology, Queensland Branch).

Corrigendum.

THE MEDICAL TREATMENT OF MINORS.

THE author of the letter which appeared in the issue of June 25, 1960, on page 1043, under the heading "The Medical Treatment of Minors" is William Garrett, not Garnett, as printed. We express our regret to Dr. Garrett for this error.

Nominations and Elections.

THE undermentioned have applied for election as members of the New South Wales Branch of the British Medical Association:

Blunt, Michael John, M.B., B.S., 1945 (Univ. London), L.M.S.S.A., 1944 (Univ. London), Department of Anatomy, University of N.S.W., P.O. Box 1, Kensington.

Macken, James Ernest, M.B., B.S., 1959 (Univ. Sydney), 2/14 Birriga Road, Bellevue Hill.

Scalzo, Giglio, M.D., 1946 (Univ. Bari, Italy), Regional Registration, Taralga Region, Taralga.

Deaths.

THE following deaths have been announced:

PEARCE.—James Vine Pearce, on June 8, 1960, at Echuca, Victoria.

EKSTEINS.—Arvids Eksteins, on June 10, 1960, at Perth.

HENDERSON.—Robert John Arnold Henderson, on June 10, 1960, at Benalla, Victoria.

DARRAGH.—William Chandler Darragh, on June 15, 1960, at Sydney.

O'REILLY.—Susannah Hennessy O'Reilly, on June 18, 1960, at Pymble, New South Wales.

Diary for the Month.

JULY 5.—New South Wales Branch, B.M.A.: Council Quarterly.
JULY 6.—Western Australian Branch, B.M.A.: Branch Council.
JULY 6.—Victorian Branch, B.M.A.: Branch Meeting.
JULY 7.—South Australian Branch, B.M.A.: Council Meeting.
JULY 8.—Queensland Branch, B.M.A.: Council Meeting.
JULY 8.—Tasmanian Branch, B.M.A.: Branch Council Meeting.
JULY 12.—New South Wales Branch, B.M.A.: Executive and Finance Committee; Organization and Science Committee.
JULY 14.—New South Wales Branch, B.M.A.: Public Relations Committee.

Medical Appointments: Important Notice.

MEDICAL PRACTITIONERS are requested not to apply for any appointment mentioned below without having first communicated with the Honorary Secretary of the Branch concerned, or with the Medical Secretary of the British Medical Association, Tavistock Square, London, W.C.1.

New South Wales Branch (Medical Secretary, 135 Macquarie Street, Sydney): All contract practice appointments in New South Wales.

South Australian Branch (Honorary Secretary, 80 Brougham Place, North Adelaide): All contract practice appointments in South Australia.

Editorial Notices.

ALL articles submitted for publication in this Journal should be typed with double or treble spacing. Carbon copies should not be sent. Authors are requested to avoid the use of abbreviations, other than those normally used by the Journal, and not to underline either words or phrases.

Authors of papers are asked to state for inclusion in the title their principal qualifications as well as their relevant appointment and/or the unit, hospital or department from which the paper comes.

References to articles and books should be carefully checked. In a reference to an article in a journal the following information should be given: surname of author, initials of author, year, full title of article, name of journal, volume, number of first page of article. In a reference to a book the following information should be given: surname of author, initials of author, year of publication, full title of book, publisher, place of publication, page number (where relevant). The abbreviations used for the titles of journals are those of the list known as "World Medical Periodicals" (published by the World Medical Association). If a reference is made to an abstract of a paper, the name of the original journal, together with that of the journal in which the abstract has appeared, should be given with full date in each instance.

Authors submitting illustrations are asked, if possible, to provide the originals (not photographic copies) of line drawings, graphs and diagrams, and prints from the original negatives of photomicrographs. Authors who are not accustomed to preparing drawings or photographic prints for reproduction are invited to seek the advice of the Editor.

Original articles forwarded for publication are understood to be offered to THE MEDICAL JOURNAL OF AUSTRALIA alone, unless the contrary is stated.

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